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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

CXXVII.—No. 4260. SEPTEMBER 26, 1924.

HOUSING

THE figures recently given by the Ministry of Health relating to housing schemes under the Chamberlain Act of 1923, which we published in our issue for September 19, appear to raise the question whether the policy embodied in the Act of this year of favouring the local authorities more than private enterprise in the amount of the contribution or subsidy is a wise one. Table I gives the number of houses authorised up to September 3, and the figures are: Houses to be erected by local authorities, 55,286; houses to be erected by private enterprise, 103,233. Table III, which is headed "Building Progress," gives the number of houses under construction: By local authorities, 16,928; by private enterprise, 33,596. In fairness it must be pointed out that in a note to these tables it is stated that returns had not been received from 42 local authorities for September, and that in the case of those local authorities the numbers had been taken from the returns of the previous month, but it is still worth noting that the number of houses authorised and under construction by private enterprise were nearly double the number given for local authorities. Under this Act both private enterprise and the local authorities, so far as the State contribution or subsidy is concerned, are in a position of equality, and under such conditions private enterprise has given about double the output of houses. If we may use a simile, the policy of favouring the local authorities appears akin to what would have been the policy of a Government who in past times had elected to subsidise horse traffic to the disadvantage of motor traffic, preference being given to the slower method of progression.

The Government, however, concedes the fact that private enterprise produces houses, but alleges that the houses so produced do not meet the present need for working-class dwellings, as they are sold and are not offered on weekly agreements. Mr. Wheatley, in a recent article in the *Operative Builder*, has again emphasised this point, as he says: "The Act of 1923 was producing houses, but not enough to ease the position, and the houses were mostly being built for sale and not for letting, so that those very people whose needs it was hoped to meet were not being helped." A correspondent, in a letter we published in our issue of June 6, went further than this, as he stated that "Working-class dwellings never have been supplied by private enterprise and with much stronger reason cannot be supplied now without assistance from the State." We cannot but think that this statement goes too far, for there are working-class buildings erected expressly for the working-classes in every industrial town in the country which were erected by private enterprise, and although of late years, especially since the war, there has been considerable conversion of large houses in neighbourhoods which have changed in character, we hardly think it could be proved that until comparatively recent times the bulk of the working-classes were not housed in houses erected by private enterprise.

Be this as it may, the figures published by the Ministry of Health as to the numbers of houses now being produced whilst local authorities and private enterprise stand practically on an equal footing as regards subsidy, coupled with the statement that those erected by private enterprise are only sold, and not let, are very suggestive, as it would appear that the real problem to be solved is why private owners will not let the houses which they can produce twice as quickly as the local authorities have done. It will also be very interesting to watch the results of the handicap which the present Government has instituted. The obstruction to houses being offered on lease or let on weekly agreements is rent restriction, and the nation is now being called upon to subsidise housing because for many years an economic rent has not been permitted. The Clydebank dispute in itself serves as an object lesson as to what restriction in rent may lead to, especially in the case of weekly tenancies to the poorer classes, and with that example before their eyes private owners hesitate to let the houses which they erect. Rent restriction is founded on a radically wrong principle, as it makes the private owner of one class of property alone contribute to the national necessity. For ten years the private owners of certain classes of houses have been called upon to pay a subsidy towards housing levied on their property alone, and having thus paid a tax or rate levied upon no other class, they are still left with this burden upon them, whilst an additional subsidy is offered to the local authorities in order to induce them to undertake the work that the private owners are prevented from carrying out.

Since it is proved, other things being equal, that private enterprise supplies twice as many houses as the local authorities, the solution of the housing question appears not to lie in increasing the subsidies unequally between the two agencies for supply, to the detriment of the most productive, but to inquire carefully whether steps can be taken to encourage private enterprise not only to erect houses but to let them when erected. This is a very thorny subject and requires approaching with the greatest caution. There is strong opposition to the immediate repeal of the Rent Acts, and although we cannot follow the argument in the letter by the correspondent we have already referred to, that it would be unfair to those who went to the war placing them at a disadvantage with the "stay-at-home," seeing that the real effect would be to place the stay-at-home on an equality with those who served instead of being "preferential" householders as they are under rent restriction, we are content to leave the matter there in this article, which is not so much addressed to the subject of repeal of the Rent Acts as to securing the increase of housing accommodation which will be let to small tenants. Our correspondent agreed with us that the payment of subsidies is a wrong method, and puts the point tersely, saying that generally it is an encouragement to extravagance and unfair inflation of prices, but the nation stands now committed to vast subsidies and is backing the slowest horse, the local authority. If a subsidy has to be paid, is it being spent to obtain the best result? Would not a less sum than that now proposed to be spent in subsidies be expended if the Rent Acts were repealed and necessitous tenants assisted?

We made some such suggestion tentatively in our issue of May 23, and our correspondent in the letter we have referred to characterised the policy as "stark staring daylight madness," and thought it would lead to profiteering on the part of those who had bought property at low prices, but although we deprecate assistance being given through the rates, we may remind ourselves there is some precedent for such assistance being given in section 5 subsection (1) (*c*) of the Housing Act, 1923, in the case of converted houses, and possibly some such method of assisting tenants might be devised. We only desire to show that there is need for inquiry whether the best method of securing houses quickly is embodied in the new Act, which favours local authorities more than private enterprise, or whether a more economic means might not be devised which would accelerate output and at the same time do something towards restoring economic rents.

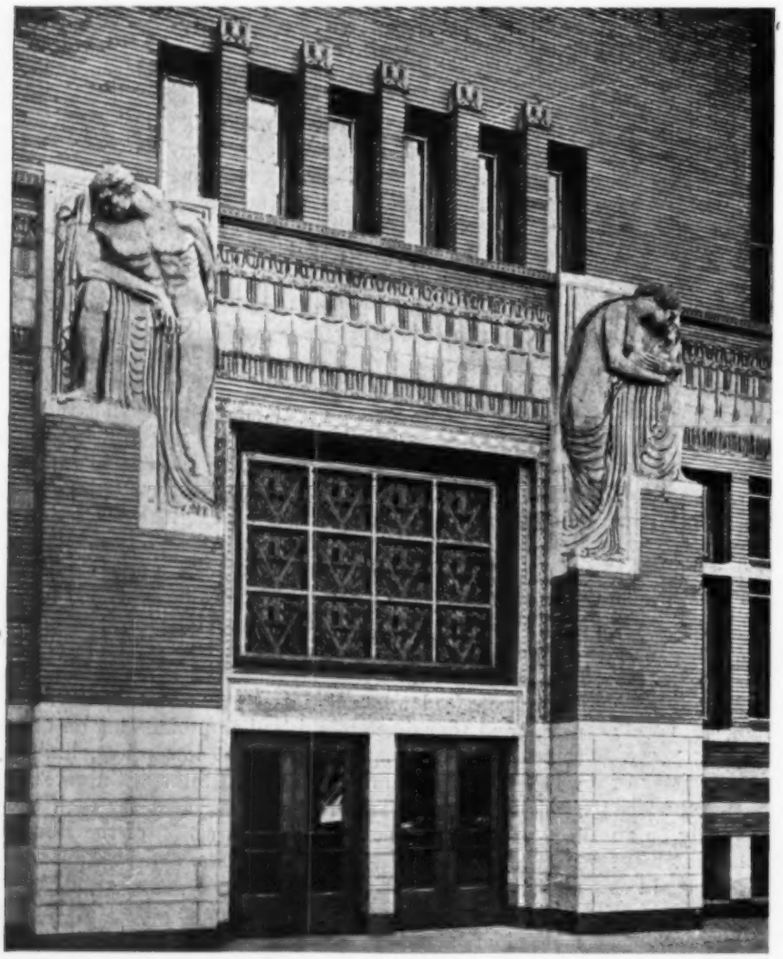
NOTES.

The Influence of Ruskin.

It is probably impossible even now fully and justly to estimate the amount or the value and influence of Ruskin's writings. In its sociological aspect one can hardly doubt the value of his insight and sympathy. In its critical artistic aspect much exception might be taken; it would be quite impossible for us all to follow him in his extreme laudation of Turner. In its relation to architecture it has become the fashion to underrate much of his writing, but we think our readers will agree that in his very interesting paper on "The Architect's Debt to Ruskin" Mr. Halsey Ricardo has done no less than justice to Ruskin's wise prevision as to church restoration, and shows that he was actually a pioneer in regard to matters which signify much to architects to-day. Elsewhere in this issue will be found the paper in question.

Housing and Labour.

We must all agree that a broader vision has been brought to bear upon many of our present-day problems during the past fifty years. The increased generosity of view which makes it desirable to realise the hopes and fears of the manual labourer is a distinct advance in modern civilisation. But real statesmanship should be the guide in national affairs, and that is bound to take cognisance of all the needs of all classes. There is much to commend in the efforts of the National Federation of Building Trade Operatives to make things easier and fairer for its members. But we have to face many hard facts in these tax-ridden days, and whilst we must give a sympathetic ear to the sociologist and philanthropist, we cannot afford to ignore the economist or the statesman if the greatest good is to be assured to the country. It is not a fact that the "new earth" is a something which "plain men alone can produce," if it is the generally accepted meaning of plain. Nor will there be felt general confidence in the statement of the Federation that they "are both able and willing to build houses with or without the intervention of the employers." We welcome all fair and simple statements, but we cannot see that the way out of our many difficulties is to be found without full consideration of our economic and practical difficulties side by side with the vital interests of manual labour and non-manual labour as well. We must not forget that brain power is at least equal to brawn and muscle, and we cannot reckon without it.



Woodbury County Court House: Side Entrance. (*See page* 472.)
MR. WILLIAM L. STEELE, Architect; MESSRS. PURCELL & ELMSLIE, Associated Architects.

Architects' Benevolent Society's Insurance Scheme.

We have received a copy of the Architects' Benevolent Society's Insurance Booklet, which, we understand, has been sent to every member of the architectural profession. The booklet contains full particulars of the Architects' Benevolent Society's Insurance Scheme, from which we learn that all an architect has to do, whatever form of insurance he may require, is to apply to the Architects' Benevolent Society. The Architects' Benevolent Society is not tied in any way to any insurance company. Each architect who insures is free to choose his own office, but if he has no preference he can leave it to the Society to recommend an office where the class of policy he requires will be quickly and advantageously carried through. If architects insure through a central agency, which is at the same time a society whose entire income is expended on the less fortunate members of the architectural profession, they have the satisfaction of knowing that the commission which is attached to the transaction, and which is paid to the Architects' Benevolent Society, is returned by the Society to the architectural profession in the form of grants and pensions to "those in necessitous circumstances who have been engaged as architects or architects' assistants and to their widows and children." This is an aspect of the scheme which, it is felt, has only to be realised to appeal to all architects who care for the solidarity of their profession, and we gladly call attention to a very simple way in which the Society can be assisted.

Workmen in the Building Trade.

We are glad to note in the current issue of the R.I.B.A. *Journal* that the Committee appointed by the Institute to inquire into the shortage of skilled workmen in the building industry has been at work on the question for some months, and hopes to be in a position to lay its views before the Ministry of Health at an early date. Their views should be of special interest at the present time, and we hope they will have some useful suggestions to put before the Ministry. Wages are standardised, there is plenty of work, and yet, with large numbers of unemployed workmen, many of them partly trained, we find this serious shortage of labour.

Mural Decoration.

We are glad to notice that, in no way depressed by recent failures in the attempt to revive mural painting, a scheme of decoration has been recently carried out in the Memorial Club of the Highway Clubs (Incorporated) by two students of the Slade School under the

Photo: Mr. W. John Allcorn.

Sheldonian Theatre, Oxford.
(Showing the President of the R.I.B.A.)

direction of Professor Tonks. From reproductions of them appearing in a contemporary they appear to be executed with much ability. Perhaps it is hardly suitable to speak of such work as executed by students, as the handling shows considerable experience; however, as the ages of the artists are given as 19 years only, it is evidence of great promise for their future careers. The two students executing these paintings are Mr. Rex Whistler and Miss Adshead, a daughter of Professor Adshead, the Professor of Town Planning, London University. We shall be interested to learn whether these paintings, which are executed in oil, were carried out on the wall itself—the essential requirement of mural decoration—or whether they are that studio substitute over which so much talent wastes itself. A real revival of mural decoration will only be achieved when the methods are those which properly belong to the art. The panels measure about 7½ ft. by 10 ft. It will be something of an achievement if the co-operation of two artists in this way has succeeded in obtaining a unity in their work, which from the reproduction we have seen appears to be the case. Every encouragement should be given to work of this character, and the two students who have executed these paintings are to be congratulated on the vivacity and brilliance of their work. We like to hear of the arts finding a home in Shadwell, where there is perhaps as genuine an appreciation of beauty as in more favoured neighbourhoods.

An Ealing Defacement.

FOR whatever reasons—probably more than one—we are very glad to notice, in reference to the note on this subject in our last week's issue, that the large mirrors disfigured by advertisements which were placed recently on the old green at Ealing have been removed. The Council is to be commended for its support of the amenities of the locality in deciding to remove them. We feel sure that many others besides ourselves felt the unsuitableness of introducing ugly advertisements on ground belonging to the public, and this aggression was a very flagrant one. It is a pleasure therefore to be able to state that wiser counsels have prevailed and that the attractive old green is freed from this violation of its old-world quiet.

Commercial Education.

WE are glad the Royal Society of Arts is calling attention to the advantages offered by the London County Council for commercial education in their evening classes and the examination organised by the Society. It is to everyone's interest that students should take the fullest advantage of the educational opportunities offered, and it is to be hoped that our commercial houses will do all they can to encourage the attendance at these schools and examinations, for in these strenuous times we must aim at the most thorough-going efficiency.

Pictures and Sculpture.

AN interesting exhibition is that of the New Forest group at the Mansard Galleries, and many admirable pieces of sculpture add much to the value. Mrs. Phœbe Stabler and Messrs. Hesketh Hubbard and Armfield have specially good subjects. Two or three of the landscapes reach a quite high level of attainment. The serene and quiet charm of some of our old English water-colour painters would be a welcome addition to the skill of our modern artists.

The Making of Pictures.

WHILST so much really excellent work is being done it is a pity that space is found for what can neither elevate nor amuse. One of the exhibitions now open is typical of the futility of much modern art. We looked carefully over every exhibit in this collection and could not find out any reason for their existence. It is a curious thing that anyone should be ready either to produce or exhibit works so completely lacking in any real artistic value.

Building Materials.

THE Committee which has been appointed by the Minister of Health to report as to materials and methods of construction available for the building of houses for the working classes have a wide field for their inquiries. It would appear, however, that apart from the advantage of different localities for the supply of particular materials, there is not much difference of cost between them all. We think the use of wood as a building material has greater claims than one generally allowed to it, and we should like to see some building done on the lines of the Essex and Kent weather-boarded buildings. The risk of fire has not been established as much if at all greater than other materials. Nor should the consideration of the material to be used be wholly utilitarian. Certain localities have already been defaced owing to the alien material used for housing schemes, forming so great a contrast to the buildings already existing as to create a very unsightly effect. We cannot altogether ignore considerations which affect so much the result of what is done. Concrete has the advantage that it can be adapted to take a local character in its form, and should in the hands of good architects be made to conform to local characteristics. In any case, it is more a matter of locality than price as between different materials, and what we do want to see combined with due economy is some sensibility of the fitness of what is built, that it shall add to and not disfigure the existing amenities of the localities in which it is placed.

Photo: Mr. W. John Allcorn.

Oriel College, Oxford.

GENERAL NEWS

Professional Announcement.

Mr. Walter Dewes, architect and surveyor, has removed his offices from 4, Bloomsbury-place, W.C.1, to 37, Bedford-row, W.C.1. Telephone: Chancery 7512.

Mural Decoration.

At the Memorial Club, Shadwell, a successful experiment in mural decoration has recently been carried out by Miss Adshead (daughter of Professor Adshead, Professor of Town Planning, London University) and Mr. Rex Whistler, under the direction of Professor Tonks. Five bays in all have been decorated.

Oxford Society for the Blind.

On September 29 Mr. Herbert A. Cox will lecture on "Old London," in the Holywell Music Room, Oxford. The chair will be taken by the Rev. T. W. L. Caspersz, Rector of Crowmarsh. The lecture will be illustrated by lantern slides and a model of "Old St. Paul's" will be exhibited.

Bartlett School of Architecture.

On September 29–30 (10 a.m. to 1 p.m.) students of the Bartlett School of Architecture will be received by the Provost, Professor Richardson, and the Tutor to architecture students. On October 1, at 5.45 p.m., the students of the evening courses in Architectural Design, and of the Architecture Atelier, will assemble.

The Earliest Architecture.

The Tomb Chapels, which have recently been unearthed by the Department of Antiquities, are, it is claimed, the earliest surviving stone buildings in Egypt, and therefore in the world, having been built at the very least in 3000 B.C. according to the so-called short chronology, but many archæologists are prepared to give them 1,500 years earlier. The discovery, it is stated, will involve the re-writing of the first chapter of the history of architecture.

The Institute of Builders.

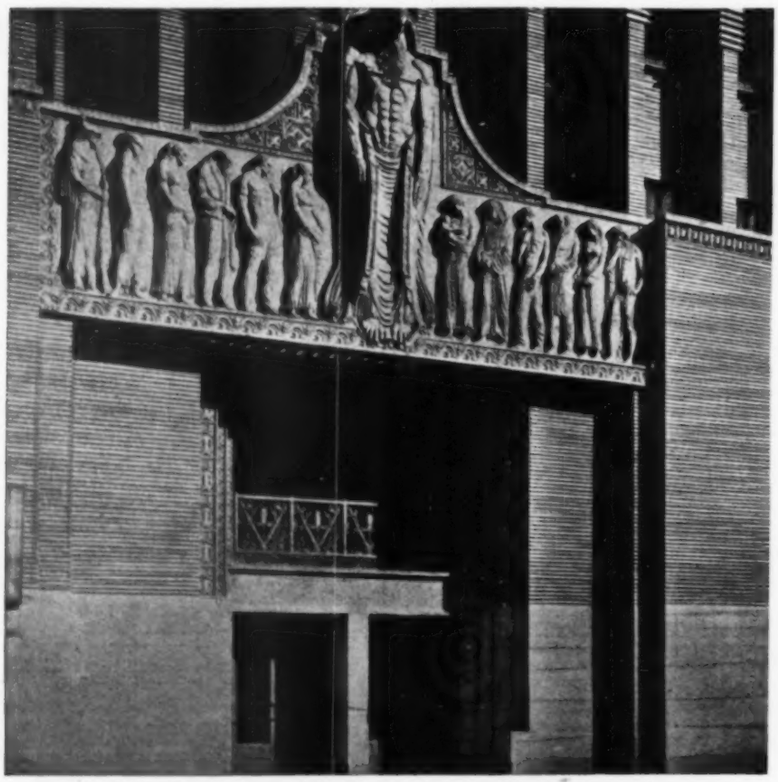
The next Licentiate examination of the Institute of Builders will be held about the third week in May, 1925. The fee for the examination will be £1 1s. Applications should be sent in not later than February 1. Syllabuses containing application forms can be obtained from the office of the Institute of Builders. Specimen sets of Licentiate papers with drawings are also obtainable at a charge of 5s. a set.

Leiston War Memorial.

A memorial chapel was recently dedicated at Leiston, Suffolk. The chapel is built of flint and granolithic stone, with a red tiled roof, and copper bell turret at the west end. It is in the Early English style of architecture, and consists of a nave, small chapel and vestry, the design of Mr. J. A. Sherman, architect, Ipswich. The memorial tablet, of white marble, on which are inscribed the 122 names of the fallen, was carried out by Messrs. Smyth Bros., Leiston.

New Houses in Glasgow.

The Minister of Health recently visited the two new types of houses at Dalmuir and Burnside which have been built with a view of helping on the solution of the housing problem. In the morning Mr. Wheatley visited the Beardmore works at Dalmuir, where a new type of steel house has been constructed. The other house, which has been erected by Messrs. John M'Donald, contractors, Burnside, on a site on the East Kilbride road, was inspected in the afternoon. The usual materials have been utilised in the building of this house, which has three apartments and a scullery and bathroom. Mr. Wheatley stated it was an interesting fact that people in the industry had awakened to the possibility of competition from other directions, and were turning their attention to the production of houses of the existing type by mass production methods.



Woodbury County Court House: Main Entrance.
MR. WILLIAM L. STEELE, Architect; MESSRS. PURCELL & ELMSLIE, Associated Architects.

COMPETITION NEWS

Christian Science Church, Southport.

Designs are invited for a new church and Sunday school at the First Church of Christ Scientist, Southport. Premiums of £75, £50 and £30 are offered respectively. The assessors are Messrs. J. E. Sanders & Son, A.R.I.B.A., 219A, Lord-street, Southport, to whom application should be made, accompanied by a payment of 10s., returnable only to those who send in designs. (See advertisement this week.)

Manchester Art Gallery.

The sending-in day for this competition is January 20, 1925. (See our issue for August 22.

Concrete Cottages.

Designs for cottages of concrete construction. Prizes of 30 guineas and 15 guineas for the best designs and, in addition, the successful architect will be paid architect's fees for working drawings and details, but will not be required to superintend erection. Particulars from Messrs. G. & T. Earle, Ltd., Wilmington, Hull.

The closing date for this competition is October 31. Particulars can be seen at this Office.

Methodist Church.

Designs are invited for a Methodist Church, school house and manse, Sheffield. Particulars from Mr. T. A. Hardy, 24, Thornsett-road, Sheffield. (See our issue for September 5.)

Barrow Hill Memorial Club.

Applications are invited for plans and specifications for the erection of a club, by way of extension of the existing Barrow Hill Memorial Club, near Chesterfield. Approximate cost, £4,000. Particulars can be obtained from the Secretary of the Club. (See advertisement this week.)

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Ross-Smith Memorial (Sept. 30; Feb. 22). Public Baths, Newton-in-Makerfield (Sept. 30; July 11). Harrogate Infirmary (Sept. 30; Aug. 29). Masonic Hall (May 1). Glasgow High School (Sept. 30).

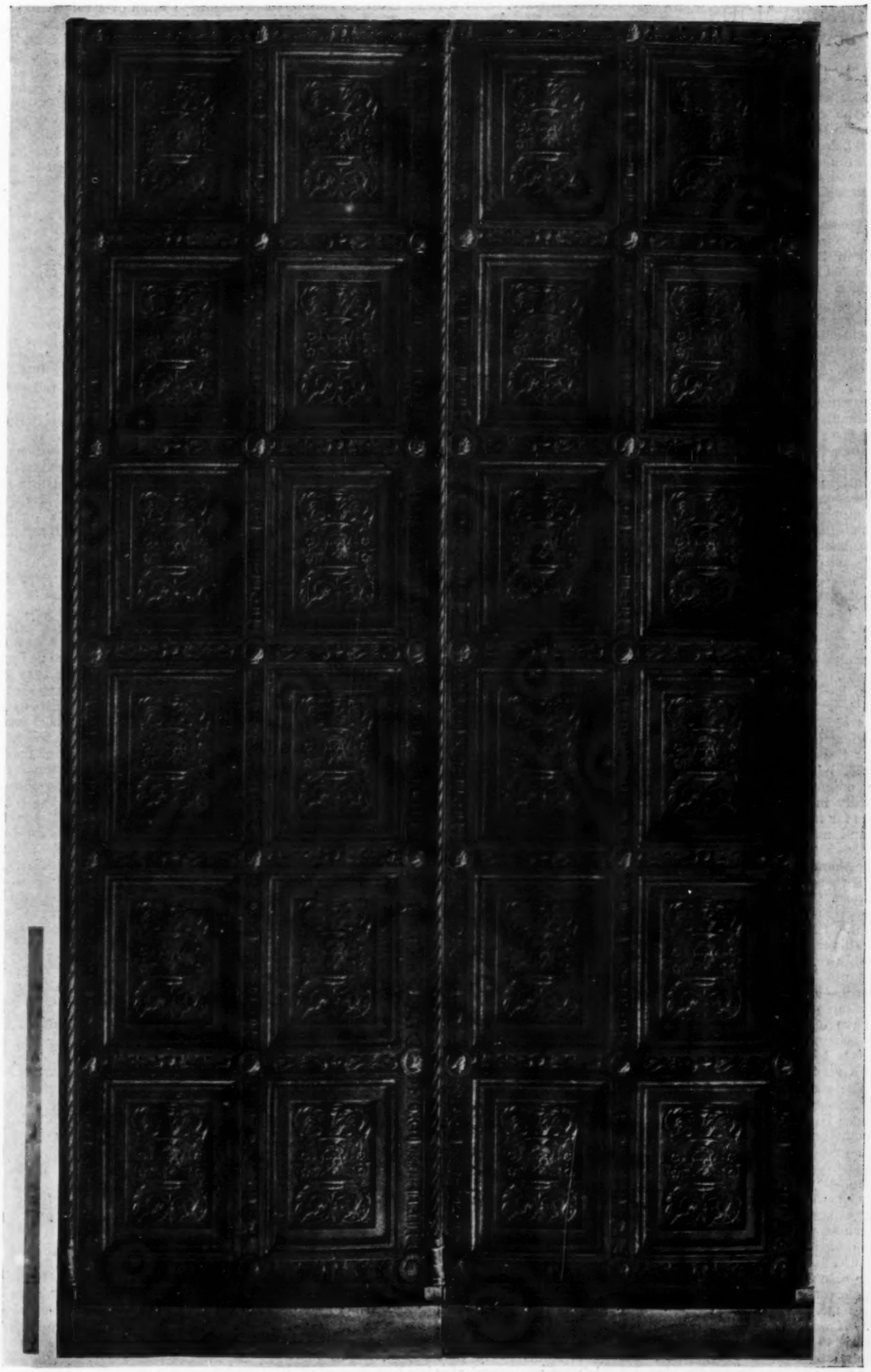
BRONZE DOORS, BANK OF BOSTON, BUENOS AIRES

THE solid cast bronze entrance door illustrated on p. 467, is the largest metal door, we believe, that has ever been produced in this country. The dimensions are 20 ft. in height by 11 ft. wide. The door is in solid cast bronze and weighs 3½ tons. The decorated panels and borders are finely chased and form a striking example of metal craftsmanship. The doors were cast in the foundries of the Birmingham Guild, Ltd., Grosvenor Works, Grosvenor-street West, Birmingham, to the design and instructions of Messrs. Yorke & Sawyer, architects, of New York, in conjunction with Messrs. Chambers & Thomas, of Buenos Aires, and the consulting engineers in connection with this work were Messrs. Stone & Webster, of Boston, U.S.A. The doors are for the main entrance of the Bank of Boston, Buenos Aires, South America. They are to be fitted with electric gearing for raising and lowering. It is interesting to note that the production of this piece of metalwork was entrusted by American architects to a Birmingham firm.

Architects' Estates.

Mr. Joseph Nodal, of Heaton Gables, Heaton Mersey, near Manchester, architect and engineer, £11,375.

Mr. John Exton, of Marsh-street, Manchester-road, Bradford, architect (net personalty, £2,827), £4,566.



Solid Cast Bronze Entrance Door for the Bank of Boston, Buenos Aires, South America.

MESSRS. YORKE & SAWYER, Architects, New York, in conjunction with MESSRS. CHAMBERS & THOMAS, Buenos Aires.

THE VIRTUE OF THE ANONYMOUS

By DUDLEY HARBRON.

PUBLICITY in the interest of architecture as an art or calling is excusable. In the interest of individuals it is selfish. At times it may be tolerated for the smile that its devotees may bring on occasion to the most pessimistic. We can afford, not being competitors, to laugh when we read how Philibert de l'Orme, the builder of the Tuileries, and a very pushing young man, was pleased to measure the Triumphal Arch of S. Maria Novella just when several Cardinals and nobles—possible clients—happened to be passing. But we jeer when his modern imitator rings the bell in the close and asks a Minor Canon to hold his tape when he measures the Cathedral. Such actions are not quite fair. Fortunately, they defeat their own aim. It is policy to wait for the Minor Canon to volunteer to assist, rather than to aggravate him by repeating a custom which has worn thin.

Advertisement always tends to overreach itself. So doing, it appears to the onlooker who is impartial as ridiculous. The memorial to the late Prince Consort, in Hyde Park, is an instance. Admired by the Victorians, with some few exceptions (John T. Emmett amongst them), now so anathematised by the Georgians, it has, as has been noticed by E. V. Lucas in one of his delightful papers on Saturday afternoon, unconsciously overstepped the mark; for, as he indicates, "Indeed, such is the emphasis that Giotto and Michael Angelo each comes into the scheme twice—once as a painter and again for structural design."

You can call "Wolf" once too often. I am not sorry I do not figure on the podium, garbed in a frock coat, as do several eminent gentlemen.

The code of "Professional Conduct and Practice" permits—nay, encourages—the artist to sign his work. This has led the architect in some cases to have his initials cast upon the rain-water heads. No assayist has yet condescended to rescue his partial evasion from the deserved oblivion of the back elevation. Doubtless the owner feels a little tired when, for the twentieth time, he is asked by his guest to explain the enigma. Work that is worth initials is hardly in need of such adventitious aid; it speaks for itself. Its creator is evident in its lines and nuances, its colour and proportions.

At one time there was a virtue in anonymity that perhaps, if we are not too optimistic, is now a little outworn. The work was not worth signing. Observers have said so. I do not press the point. I leave the words of Pater as I find them in his essay in the *Guardian*: "Our generation, quite reasonably, is not very proud of its architectural creations—confesses that it knows too much—knows, but cannot do."

We, not quite so bashful, murmur, "Thank heaven we have outgrown such observations, and are not ashamed to own our creations." But, is it wise? Is it necessary? It has been indicated for a very good reason that it is not the latter. The wisdom of it may be left for others to determine. Who wants to know? Where ignorance is bliss, 'tis folly to enlighten. There are advantages in residing in the country away from the telephone. Even being in *Who's Who* has its inconveniences.

That which to-day we look upon with pride, may to-morrow turn and rend us—may even be designated a terra-cotta monstrosity by our fellows, a shocking waste of material; one can never be sure of the judgment of even the immediate future. If our critics cannot without effort find our names—and they are habitually lazy—we can sleep the more comfortably in our beds; perhaps mercifully forget our youthful indiscretions. If we have signed, then all that remains to do is to sneak out at night with a chisel and mercifully erase our signatures. As we cannot use pseudonyms, if we must sign let it be out of sight. On the top of the cornice the plumber may chance upon it and forgive. On the top of the door, where nobody ever dusts, and the painter seldom paints.

The Greeks sensed the matter rightly when they gave pseudonyms to their gods to preserve their dignity. Our dignity must be conserved at all cost. The politician, tired of publicity, seeks the anonymous in the House of Lords. Too few architects get there. If the worldly-wise thus decide, why should we, traditionally, happily, as Belloc says in "Unknown People," "the most anonymous of all the arts," seek a place in the limelight that our complexion will not stand? Is it not better, continuing the simile of the stage, that we should, like the actor, conceal our identity behind our rôle, until called by a clamant public to make our bow before the curtain? Of course, some of us may organise clacks—some of us have—but the gallery know the source of the applause. I will say nothing about the excitation of envy if half the street is to be plastered with somebody else's name. Nor yet of covetousness—that the client should be so fortunate. No, we must contain ourselves. Display the owners' arms, if need be, not too often. Be ourselves content with a humble monogram, mayhap on the head that takes the bathroom waste; for after all it is not our own, but another man's house, a matter that the advertiser is apt to overlook.

We can admire the solution of the problem by our compeers who have succeeded, without signatures. They infallibly stamp other people's houses as their own. Into such a category has passed the mansion of many a noble lord, now only recognised as "that house of Norman Shaw's." In the same manner we speak of "Inigo Jones's Banqueting Hall": filching from a King his rightful claim.

That is the sort of advertisement worth striving for. Until then, let us be modestly anonymous.

CORRESPONDENCE

Architects' Benevolent Society's Insurance Scheme.

SIR,—May I trespass on your columns for a little space in which to call the attention of your readers to a very simple way in which they can help the Architects' Benevolent Society?

If in the next insurance they effect—be it on their life, their house, its contents, or any other thing that is theirs—they will ask their insurance company to put it through the agency of the Architects' Benevolent Society, the commission will be given to the Society as a subscription in their name.

Architects are not usually agents for insurance companies, and therefore these agency commissions, which in the aggregate must amount to a very large sum per annum, are dissipated as far as the profession is concerned. The aim of the Benevolent Society is to collect them and expend them for the good of the profession.

This is one of those simple proposals which, like "Daylight Saving," is so obvious that one wonders why no one thought of it before. The medical profession thought of this one some years ago, and are now, I understand, making a large income for medical charities out of it.

We architects can now do the same without even trouble for ourselves, and with great benefit to our Benevolent Society.

MAURICE E. WEBB,
Chairman,
A.B.S. Insurance Sub-Committee.

Friction in the Building Trade.

SIR,—May I, as a layman and a foreman, be permitted a little space in order to comment upon the letter in last week's issue, by a past-President of the L.M.B.A., bearing upon the question of the 46½ hours a week? My remarks bear upon the London area only.

It seems to me that the solving of the 46½ hours a week perplexity has been very dilatory; that it is now too late, and certainly serving no useful purpose in bringing it to the fore. The real point at issue should be how to get the best results. Of what use is it when we know that no matter how many hours are worked quite 50 per cent. cannot pull their weight. I think over this matter the employers have used the wrong tactics. They have been trying to get the 44 "objective" ball into the "46½" pocket by striking it full on. There are two ways to deal with these things: Bismarkian or psychological; either to keep on striking hard and trusting to the luck of the run into the pocket, or, after you have asked yourself why it can't be done, you realise by going a little to the off the thing is done. Now, I submit that the question of the 46½ hours from the employees' point of view has not been fully understood. The question of the longer hours does not enter into the argument of the average employee; in fact, from what I have experienced there is no difficulty in getting men where overtime can be worked. This is well known to the trade union officials. The reason for their sticking to the 44 hours is that they think, rightly or wrongly, that if they work longer hours—in a general sense—sooner or later there will be a revision of the position and that the sum total per week will be brought into line with the cost of living basis, with a consequent reduction per hour. This is preached and emphasised in every trade union branch, shop and job. The overcoming of this difficulty will solve the problem.

I think, too, that it must be remembered that the majority of trade unionists are sticklers for their rules; some through the fear of being found out, I admit; and I do suggest that there was a diversity of opinion existing between the employer and employee over the interpretation of the Fraser Award. A legal decision was the only way out.

It would not have been very difficult, as a test case, for some possibly antiquated legal point to have been brought to light, and a legal action for not complying with the Award brought against certain men or unions such as, say, the A.S.W., who had it printed boldly in their monthly journals that the 44 hours was to be worked. The decision of the Fraser Award would have received its legal and proper interpretation, no harm would have been done and it would have been very interesting reading.

There is just another point upon the matter. I don't think it is fully understood the amount of time that is spent in travelling to and from work. Most men live in the suburbs; quite two or three hours daily are spent in travelling, many of them having to strap-hang. This is getting a serious matter, for whereas the pre-war worker used to make it a fetish coming up West, he now finds that he can do better in and around his own locality. The result is that we are getting a younger, inexperienced, post-war type of worker, with the glamour of London, and with the knowledge that no matter how "duffy" he is, he can "bunch in" somewhere. This is the terror that flieth by day to the foreman who has got to get a "move on." In fact, there is more than one righteous foreman who has more than once dangled over Hades, or been driven to Colney Hatch through the incredible "bloomers" that have been made by these men. Almost everything done, little or great, must receive personal supervision. The sketch of "Wal. Pink's" workmen cutting the wrong supply pipe, or fixing nails for coat hangers is not in it.

It is easier for a camel, &c.; nothing is mentioned about foremen. *Verb sap.*

Personally, I have come to the conclusion that there is no real incentive for a man to do his best (I speak of the casual employee, and not those who become attached to different firms), and that the only solution to these problems is a system or method of grading which could be approved by both sides.

Next year the 46½ hours will be in operation, but the aforementioned woes of foremen will not cease; therefore I do suggest that this matter of grading, together with security, should receive careful consideration, and that both sides be given space in your journal to discuss the pro's and con's, and that in conclusion we all think less of what might have been and more of the goodwill and prosperity of the building industry.

Wimbledon. W. D. STEFFENS.

Timber Bridge at Wilderswil, Switzerland. By MR. FRANCIS UNWIN.
[This drawing was recently exhibited at the St. George's Gallery.]

THE ARCHITECT'S DEBT TO RUSKIN

By HALSEY RICARDO, F.R.I.B.A.

On March 31 an able and lively paper was read by Mr. H. S. Goodhart-Rendel on "English Gothic Architecture of the Nineteenth Century" at the Royal Institute of British Architects. The lecturer dwelt only slightly—as hardly within his scope—on the moral awakening as regards the workman's part in the evolution of mediæval architecture that took place during the latter half of the century. He recognised the intense conviction of men like Pugin, Butterfield and Street that the "Gothic" forms of the past represented a fervour of English (and North European) feeling that still lingered, and could be encouraged to burgeon forth again, and that it was their mission to foster a gospel that was stirring in the minds of the earnest thinkers of the time. Those architects came in on the crest of the full tide of religious emotion at that time flooding the land, and the enduring value of their work was the mass of cultivated opinion that supported and urged them on to provide the ideals of "Christian" architecture. It was a wonderful, wide-spreading, passionate backing, and its power pervades and strengthens the conceptions of the great architects of that time. None of the three that I have named (nor many of their architect contemporaries) ever for a moment doubted but what the "Gothic style" could prevail over all others in the future—in England at least, if not throughout the Christian world.

But it was the æsthetic side of the movement that made the first appeal, and it was not till the publication in 1849 of Ruskin's "Seven Lamps of Architecture," and in 1852 of the second volume of the "Stones of Venice"—in the famous chapter on "The Nature of Gothic"—that a real appreciative analysis of Gothic art was given to the world. How it fell on the ears of the laity lies outside the scope of this article. The architectural world was far from being prepared to receive it. *The Builder** (the mouthpiece of the profession) prophesies that "his doctrines will fall to the ground and be, if not forgotten, remembered and referred to only as the visionary speculations of one who shows himself determined to be original *coûte que coûte*. . . . And surely there must be something very peculiar in that gentleman's idiosyncrasy when we find him so dotingly enamoured of the ducal palace and St. Mark's at Venice, in which he is pleased to behold supreme *loveliness*, the very last quality which anyone else would ever think of attributing to that grotesque pile."

And again, after the publication of Vol. II of the "Stones":† ". . . if passion and prejudice, or something else that is inexplicable, did not lead their author into gross and pernicious extravagances and errors; errors and extravagances the more dangerous for being advocated with unusual literary powers and sometimes a witching eloquence." In the *Civil Engineer and Architect's Journal* for July, 1849, we find: "Mr. Ruskin lays by far too much stress upon the value of material as absolutely essential to excellence of design. Even when there is equal beauty of both material and design, it is for the latter alone that the architect himself can claim any merit, for as to the other, and the workmanship of it, they belong not to him, but in the first instance to his employers, and in the next to the actual operatives. As far as his own talent is concerned, it makes no difference whether his ideas be realised in genuine of fictitious materials."

We have travelled a long way from this attitude during the past seventy years, and we owe to Ruskin's insight and compelling eloquence the guidance that has befriended us. He was the first to insist on the humanity of art—that works of art had moral and intellectual qualities as well as æsthetic—that they expressed and summed up all those qualities and the social conditions in which they were produced. So, to quote Clutton Brock,‡ "his criticism gave a new importance to works of art, as being the clearest expression of men's minds which they can leave to future ages; and in particular it gave a new importance to architecture and all the applied arts, since, being produced by co-operation and for purposes of use, they express the general state of mind better than those arts, such as painting, which are altogether the work of individual artists. All this Ruskin saw; and he saw that the building and applied art of his own time were bad as they had never been before. And this badness troubled him as if it were something corrupt and sinister in the manners of men and women about him. It was not merely that he missed a pleasure which other ages enjoyed; he also was aware of a positive evil from which they had been free. Art for him was not a mere superfluity that men could have or not as they chose; it was a quality of all things made by men, which must be good or bad, and which expressed some goodness or badness in them. So, from being a critic of art, he became a critic of society, and, after writing about old buildings and modern painters, he wrote about political economy, about the order and disorder of that society which produced all the ugliness of his own time."

The "Lamps" were published in 1849; the "Stones of Venice" in 1851-2-3. William Morris went to Oxford in 1853; and the chapter on "The Nature of Gothic" sank deep into his nature, and all his ideas about art grew out of it.

There had already been plenty of tabulation and classification of the outward aspects of British mediæval buildings: antiquarians and architects, such as the elder Pugin and Rickman, had measured, drawn and grouped into "periods" selected specimens, but they all only dealt with the aspects of the buildings. It was Ruskin who penetrated past the veil of appearances and reached to the maker of the things made. The burden of the cry in the "Stones"§ is that men had lost a joy in life, a loss of which they were only dimly, if at all, conscious: with him the discontent became conscious, was analysed and analysed on scientific grounds. "Let me not be thought to speak wildly or extravagantly. It is verily this degradation of the operative into a machine which, more than any other evil of the times, is leading the mass of the nations everywhere into vain, incoherent, destructive struggling for a freedom of which they cannot explain the nature to themselves. Their universal outcry against wealth, and against nobility, is not forced from them either by the pressure of famine, or the sting of mortified pride. These do much, and have done much in all ages; but the foundations of society were never yet shaken as they are at this day. It is not that men are ill-fed, but that they have no pleasure in the work by which they make their bread, and therefore look to wealth as the only means of pleasure. It is not that men are pained by the scorn of the upper classes, but they cannot endure their own; for they feel that the kind of labour to which they are condemned is verily a degrading one, and makes them less than men. Never had the upper classes so much sympathy with the lower, or charity for them, as they have at this day; and yet never were they so much hated by them: for, of old, the separation between the noble and the poor was merely a wall built by law; now it is a veritable difference in level of standing, a precipice between upper and lower grounds in the field of humanity, and there is a pestilential air at the bottom of it. I know not if a day is ever to come when the nature of right freedom would be understood, and when men will see that to obey another man, to labour for him, yield reverence to him or to his place, is not slavery. It is often the best kind of liberty—liberty from care. . . . To yield reverence to another, to hold ourselves and our lives at his disposal, is not slavery; often, it is the noblest state in which a man can live in this world. There is, indeed, a reverence which is servile, that is to say, irrational or selfish: but there is also a noble reverence, that is to say, reasonable and loving; and a man is never so noble as when he is reverent in this kind; nay, even if the feeling pass the bounds of mere reason, so that it be loving, a man is raised by it. . . . And therefore, in all ages and all countries, reverence has been paid and sacrifice made by men to each other, not only without complaint, but rejoicingly; and famine, and peril, and sword, and all evil, and all shame, have been borne willingly in the causes of masters and kings; for all these gifts of the heart ennobled the men who gave, not less than the men who received them, and nature prompted, and God rewarded the sacrifice. But to feel their souls withering within them, unthanked, to find their whole being sunk into an unrecognised abyss, to be counted off into a heap of mechanism, numbered with its wheels, and weighed with its hammer strokes—this nature bade not—this God blesses not—this humanity for no long time is able to endure."

He was the first to recognise and voice this discontent—this new danger to the life of man—and his eloquent exposition of the first eternal principles of social economics struck a response from the inarticulate fretted chords in the breasts of thinking men. Carlyle had gone over this ground, like a prairie fire, scorching and withering the rampant vegetation that fed itself upon the discontented field—but Carlyle's indignant scolding, fierce for destruction, was little helpful to the oppressed creatures under the harrow. Ruskin, as preacher, brought a gospel that opened out a vista of relief—a gospel that has changed men's outlook on humanity. As preacher he spoke with a conviction that mastered his audience, his burning sincerity was beyond all question and above all dispute. As teacher he spoke with authority. His knowledge of art could not be questioned—he spoke from an experience granted to few men—possibly to no other man—he had stored and analysed an immense accumulation of facts and examples, not as a theorist, but as a delineator with the finest powers of perception and representation. What he said about the masterpieces of architecture could not be brushed aside as the *obiter dicta* of an amateur: you might disagree as to his conclusions, but they could not be ignored.

His teaching underlies and transfuses the present practice of architecture, although the external garniture does not necessarily assume Gothic forms—indeed, to state a paradox, under the present conditions of building and our social requirements, the use of Gothic forms would, in most cases, imply a denial of the Gothic spirit. The attention to local conditions, local characteristics, local materials (where the circumstances permit) in the architecture of to-day testifies to the existence of this spirit; the encouragement to individual handling and individual treatment of his material by the craftsman employed is a significant feature: the mason is required to offer his experience of the nature of the stones he has to deal with, their choice and their treatment; the bricklayer is directed helpfully in the matter of bricks, as to their soundness, their texture, and the beds of mortar on which they are laid; the carpenters and joiners appreciate the demand for cordial co-operation in the job, and the insistence of a high standard of execution; the common phrase of "hand-made" this and "hand-made" that, implies the recognition and the demand for the human touch, slight as in most cases it must be.

Even in the case of machine-made goods,

* *Builder*, May 10, 1851, Vol. IX, No. 431.

† *Builder*, December 10, 1853, Vol. XI, No. 566.

‡ "William Morris, His Work and Influence," by A. Clutton Brock. Home University Library. Page 13.

§ "Stones of Venice," Vol. II, Chapter vi. Nature of Gothic, page 163 *et seq.*

Labour has begun to discover that there can be joy in work, that men and women need not remain slaves of the machine; to discover that the workman can reassert his supremacy over his own handiwork, and once again make the machine his servant. It was inevitable, too, when this time should arrive, that the folly (political and commercial) of any other system would be made plain. This folly is revealed and exposed in the 1922 report of the Industrial Fatigue Research Board.* In it the methods of the last generation, so far, at any rate, as the "human machine" is concerned, are arraigned as virtual robbers of industry, and we are introduced to what is truly a new industrialism and a new craftsmanship. Experiments have been carried out to see if the speed of the machine may not be brought into harmony with the human speed. They have revealed the fact that much can be achieved in this way, for in several instances a change of pace of the mechanism, either up or down, has resulted in an increase of output. The Report deals very fully with the selection of apprentices by means of tests designed to discover their aptitude for the work, and shows how studies of the qualities needed in many different industrial pursuits are now being carried out; the selected employees, working in teams, represent the new craftsmanship. It will no longer pay to subordinate such men to the pace of any machine; they are highly skilled and they are master of their implements; their output represents their craft—their pride in their work. If it falls, they fall with it in a way unknown to the victim of mere drudgery or mere monotony. The subject of fatigue is discussed in its bearings on hours of work and on the pace of work, and how alterations in arrangements which result in mitigating this trouble speedily result in increased productiveness. Quite small changes in working method have resulted in increases of output of as much as 88 per cent. within a few months. These changes, too, have frequently converted dissatisfied into cheerful workers, and so, in a general sense, added to national efficiency.

It is in the regions of applied art—and more especially in the building trades—that the effects of Ruskin's impassioned teaching are most instantly visible; and they are due in great measure to its heartfelt acceptance by our most influential architects. This doctrine of "the joy of work" and the intimate co-operation of the craftsman found an easier method of realising itself than in other trades, and was welcomed and encouraged by all who had the true craft of building at heart—and the outcome forms the salient characteristic of the architecture of to-day. This care for the welfare of the material and the human concern and labour spent upon it, felt and substantiated by the architect, makes him especially tender over the treasures bequeathed to the nation by his predecessors. Here again the voice of Ruskin was the first to proclaim the inestimable and irreparable value of the relics on our land, and the danger in which they stood from the ignorant appreciation of the qualities they possessed. This appreciation was wholly superficial—even Pugin's "True Principles" did not go very deep; Professor Willis' "On the Construction of the Vaults of the Middle Ages" (published in 1842), a most able work, dealt only with the problems of their construction. It was a received opinion that all the missing parts of old buildings ravaged by time or violence could be replaced with new work identical (where the necessary evidence could be ascertained) with the vanished portions; that the mediæval work should be purged of subsequent accretions differing in date and style from the (supposed) main conception, and the (conjectural) original portions supplied by new work equivalent to the lost pieces. That these restorations could not be made equivalent formed no part of its creed, and the destruction that ensued, under the head of repair, of precious work under his own eyes, stung Ruskin to vehement protest. "The Seven Lamps of Architecture" was published in 1849, and in the sixth chapter ("The Lamp of Memory") there are these two "aphorisms"—No. 27: "There are two duties respecting national architecture whose importance it is impossible to overrate: the first, to render the architecture of the day historical; and the second, to preserve, as the most precious of inheritances, that of past ages"; and No. 31: "Neither by the public, nor by those who have the care of public monuments, is the true meaning of the word *restoration* understood. It means the most total destruction which a building can suffer: a destruction out of which no remnants can be gathered: a destruction accompanied with false description of the thing destroyed. Do not let us deceive ourselves in this important matter: it is *impossible*, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture." Ruskin returned to this vitally important matter in a pamphlet he published in 1854, entitled "The Opening of the Crystal Palace considered in some of its Relations to the Progress of Art," in which he speaks of the restorations which "have actually begun like cancers on every important piece of Gothic architecture in Christendom; the question is only how much can yet be saved." He suggests: "Something might yet be done, if it were but possible thoroughly to awaken and alarm the men whose studies of archæology have enabled them to form an accurate judgment of the importance of the crisis. . . . An association might be formed, thoroughly organised so as to maintain active watchers and agents in every town of importance, who, in the first place, should furnish the Society with a *perfect* account of every monument of interest in its neighbourhood, and then with a yearly or half-yearly report of the state of such monuments, and of the changes proposed to be made upon them; the Society then furnishing funds, either to buy, freehold, such buildings or other works of untransferable art as at any time might be offered for sale, or to assist their proprietors, whether private individuals or public bodies, in the maintenance of such guardianship as was really necessary for their safety; and exerting itself, with all the influence which such an association would rapidly command, to prevent unwise restoration and unnecessary destruction. . . . I make this appeal at the risk of incurring only contempt for my Utopianism. But I should for ever reproach myself if I were prevented from making it by such a risk; and I pray those who may be disposed in any wise to favour it, to remember that it must be answered at once or never." It was in 1877 that the Society for the Protection of Ancient Buildings was founded. The influence of this Society has been of incalculable benefit to architects in giving its support to them against projects, well-intentioned, for restoring objects of beauty and historical interest which the enthusiasts for their preservation are unable to see can only lead to the destruction of their history and interest. So much of Ruskin's teaching has been absorbed by all earnest-minded men, that it has passed from polemic into platitude, and one is apt now to forget the prophet in the fulfilment of his prophecies. His teaching about art may not cover the whole ground; his teaching about political economy may not cover the whole ground; but the truth of his impassioned cry has told on the world—has changed men's outlook on life and art. The local and temporary accidents of his teaching—on which his antagonist contemporaries vociferously fastened on—have dropped away through the lapse of time and that sad unlearning that we call experience; our present-day definition of art, due to his insight, plays its part in the architect's debt to Ruskin.

* Second Annual Report of the Industrial Fatigue Research Board, February, 1922.

Presidential Medallion of the Yorks and East Yorks Architectural Society.

Royal College of Art.

The Prospectus of the Royal College of Art, South Kensington, has just been issued for the session 1924–5.

The School of Architecture, of which Mr. J. Hubert Worthington is Professor, and Mr. H. J. Harding, Assistant Instructor, provides an auxiliary course for the schools of drawing and painting, design and sculpture. This course deals with the relation of the arts to architectural history and practice; the spaces and forms of buildings that are decorated in colour or enriched with sculpture; the employment of the crafts in furnishing and completion; and the study of geometrical draughtsmanship for technical purposes. Students will enter upon a course in the architecture school, upon the recommendation of the professor of their own school; such a course may be taken as preliminary to or at subsequent periods of their college career.

A special full-time course will be available for students studying with a view to the College Associateship in Architecture. The aim of the course is the study of the art of design in architecture, its objects and means of expression.

Advanced studies will be continued in post-diploma study. Measured surveys of buildings away from the College may be undertaken, the drawings being worked out in the School. Collaboration with painters, sculptors and designers in a complete scheme for a building or for an important design will be arranged under the joint advice of the professors.

Copies of the Prospectus are obtainable at H.M. Stationery Office, price 6d., by post 7d.

York and East Yorkshire Architectural Society.

The pendant illustrated on this page is executed in silver gilt with azure enamelled convex section oval ground, upon which the coats of arms of the important centres within the area of the York and East Yorkshire Architectural Society are depicted; viz., York in the centre, Hull on the left, Beverley on the right, and Scarborough below. The devices are supported by the title of the Society in gold letters on a raised ground, and capped by the White Rose of York. The size of the pendant is 2½ in. by 3½ in., and it was executed by Messrs. Fattorini & Sons, Ltd., Bradford. The Society was founded in 1882, and has a total membership of 69. The President is Mr. Stephen Wilkinson, and the Hon. Secretary is Mr. J. E Reid.

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ILLUSTRATIONS.

New Premises, Glasshouse-street.

These premises represent part of the rebuilding of the Quadrant which is now being extensively carried out, and the illustration shows the elevation of the rear portion of the Regent-street premises facing Glasshouse-street. The façade has been designed to harmonise with the design for the Quadrant, and the main lines, such as cornice and stringcourses, have been carried through at the same levels. The whole of the front is being carried out in Portland stone.

The contractors responsible for the carrying out of the work are Messrs. Thomas & Edge, Edwards Construction Co., Ltd., Messrs. Hall, Beddall & Co., Ltd., Messrs. Ford & Walton, Ltd., and amongst the sub-contractors are:—Steelwork, Messrs. W. H. Blake & Co., Ltd., Messrs. Redpath, Brown & Co., Ltd.; stonework, Messrs. F. Mortimer, Ltd., Messrs. The United Stone Firms, Ltd.; patent floors, Messrs. Diespeker & Co., Ltd., Messrs. Bradford & Co.; heating, Messrs. Brightside Foundry Engineering Co., Ltd., Messrs. Mumford, Bailey & Preston, Ltd.; casements, Messrs. Mellowes & Co., Ltd., Messrs. W James & Co., Messrs. Wotton & Sons; lifts, Messrs. Express Lift Co., Ltd., Messrs. Marryat & Scott, Ltd.; electric lights, Messrs. Macfarlane, Messrs. Marryat & Place, Messrs. Cecil Cooper & Co., Ltd.; fire escapes, Messrs. The Lion Foundry, Ltd., Messrs. Haywards, Ltd.; wrought iron balconies, Messrs. Caston & Co., Ltd.; artificial stone, Messrs. Stuarts Granolithic Co., Messrs. Bradford & Co.; pavement lights, Messrs. King & Co., Messrs. Geo. Wright, Ltd.; asphalte, Messrs. Limmer and Trinidad Lake Co., Ltd., Messrs. Ragusa Asphalte Co., Ltd.; terrazzo paving and tiling, Messrs. Diespeker & Co., Ltd.; wood block flooring, Messrs. The Acme Flooring and Paving Co.; plaster decoration, Mr. Paul Turpin; ironmongery, Messrs. Chas. Smith, Sons & Co.; cast leadwork, Mr. J. L. Emms; carving, Messrs. Gilbert Seale & Co.; modelling, Messrs. W. Aumonier & Son; W.I. stair balustrades, Messrs. Starkie Gardner, Ltd.; shop front, Messrs. Saml. Haskins & Bros., Ltd.; lantern lights, Messrs. W. James & Co.

The architects for whole façade and reconstruction of Messrs. Du Deney, Brown & Weir's premises are Messrs. Yates, Cook & Darbyshire. The architect for the reconstruction of the Aquascutum premises is Mr. Gordon Jeeves.

New Nurses' Home, Reading.

This building is being erected in Craven-road, Reading, immediately adjoining the Royal Berkshire Hospital buildings. The Home is designed to accommodate the whole of the nursing staff, about 90 in number, but is so planned that by future extensions the total may be raised to 120.

The building is simply treated, having hand-made red brick facings with Bath stone centre gable and main cornice.

Mr. C. H. Lanfear is acting as clerk of works, and the general contractors are Messrs. W. T. Nicholls, Ltd., of Gloucester.

The following sub-contractors are engaged:—Messrs. Mosdell & Lovell, Mortimer, Berks, hand-made facings; Messrs. S. & E. Collier, Reading, sand lime bricks; Messrs. Bath Stone Firms, Ltd., Hartham Park stone; The Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., all floors throughout; Messrs. Burkenite, Ltd., jointless flooring; Messrs. Stevens & Adams, wood block flooring; Messrs. Cash & Co., Ltd., Westminster, heating and hot-water installations; Messrs. Waygood-Otis, Ltd., passenger lift; Messrs. Jennings, Ltd., Lambeth, sanitary fittings; Gloucester Concrete Construction Co., Ltd., stone staircases, steps and copings; Messrs. Haywards, Ltd., fire escape staircases; Messrs. A. Brown & Co., Birmingham, locks and ironmongery.

The architects are Messrs. Chas. Smith & Son (Harry Hutt, F.R.I.B.A.), of Reading.

Midland Bank, Piccadilly.

We illustrate this week new premises of the Midland Bank just completed on the Piccadilly site formerly occupied by the Old Vestry Hall. Mr. T. B. Whinney, F.R.I.B.A., is the architect to the Bank; the elevations are by Sir Edwin Lutyens, R.A. Elevational drawings were given in *The Builder* for January 5, 1923.

Quarters for Married Military Officers in India.

These designs have been sanctioned by the Government of India for the construction of quarters for married military officers throughout India. The quarters are divided into two classes, for senior and junior officers respectively. Each class is sub-divided into plans for quarters at very hot plain stations, normal plain stations, semi-hill stations and hill stations.

The designs have been worked out with a view to providing the maximum accommodation for the minimum rent. The maximum rent recoverable from an officer is 10 per cent. of his pay, therefore should the assessed rent be over this amount the difference is a loss to Government.

An average cost of the quarters is as follows:—

	Senior Married Officer for Normal Plains Stations.	Junior Married Officer for Normal Plains Stations.
Main building	Rs. 27,320	Rs. 21,576
Porch	„ 1,250	„ 1,250
Kitchen block	„ 4,346	„ 2,997
Servants' houses	„ 6,879	„ 5,362
Stables and coach-house	„ 1,993	„ 1,993
Compound wall and gate	„ 1,800	„ 1,800
Total	Rs. 43,566	Rs. 34,378
Total in pounds Sterling	£2,904	£2,291

In accordance with Indian custom the principal bedrooms have a dressing-room and two bath-rooms attached. The dressing-rooms being large enough to be used as an additional two bath-rooms attached, the dressing-rooms being large enough to be used as additional bedrooms when required. The details of the kitchen block have been carefully considered with a view to satisfactory working with Indian servants.

In order to reduce the amount of furniture required to a minimum, each bedroom has both hanging and shelf cupboards built into the wall. The bathrooms are fitted with built-in angle washstands, shelves, and towel racks as fixtures.

The plans were prepared by Mr. P. Matthews, F.R.I.B.A., consulting architect for Military Works in India, and approved by Major-General Sir Edwin Atkinson, K.B.E., C.B., C.M.G., C.I.E., Engineer-in-Chief, Army Headquarters, India.

Woodbury County Court House.

The foundation stone of the Woodbury County Court House, at Sioux City, Iowa, was laid on July 10, 1916, and it was completed and occupied on March 1, 1918. The building is of brick with granite base and copings, and modelled polychrome terra-cotta enrichments. The entrance is the focal point, with the large mosaic figure representing the law. The general colour tone is a rich light brown, varied by the colour of the granite base and coping and the unglazed burnt-clay colour of the terra-cotta. The windows are of metal enamelled a vivid blue, with the sashes picked out in a delicate grey. The sashes throughout are of the casement type with leaded glass.

The *Western Architect*, from which our illustrations are taken, says in reference to the plan of the building:—"In preparing for the study of the court house a careful survey of the available data was made. The Board of Supervisors were shown that the typical court house, which is fast becoming 'standardised' in the hands of so-called specialists, is a delusion and a snare. They were convinced that the economical procedure would be to develop a plan suited as nearly as possible to the county's needs, and let the exterior appearance grow out of the plan. Visits were made to other court houses and sketches were prepared showing the application of the so-called Classic design to the terms of Woodbury County's problem. The result was that when the preliminary sketches were finally approved the supervisors were enthusiastic over the evidence that the Woodbury County Court House would have more actual square feet of working space for the money than any court house previously built. Upon this very practical working basis the design was developed, and most interesting and fascinating was the working out thereof. The main functions were housed in the lower part of the building and the entire available area was used. The offices most frequently sought by the general public are those of the auditor, treasurer, recorder and clerk. These four offices are placed on the main floor, and are inter-communicating as well as being grouped about a commodious lobby or rotunda."

The floors of the rotunda are a rich buff quartzite tile, the walls and piers of Roman brick with large plastered spaces containing mural paintings framed and enriched with cream terra-cotta and coloured inlays of glass mosaic. The dome is lighted by clerestory windows above the main roof, and through it at all times of day comes a flood of richly tinted light. The mural paintings are by Mr. John W. Norton, of Chicago.

The building, which cost 850,000 dollars, is fire-resisting. The only woodwork is a little for ornamental purposes, and the desks and chairs. All doors, windows, and filing cases are metal. Floors are of terrazzo, tile, cork or linoleum. Marble is used in the rotunda and court rooms and sparingly elsewhere.

The architect is Mr. William Steele, associated with whom are Messrs. Purcell & Elmslie.

Imperial Delhi.

Mr. R. T. Russell, F.R.I.B.A., is the architect of the Gazetted Officers' bungalows and the hostel for members of the Legislative Council at Imperial Delhi, illustrated this week. There are verandahs to all rooms for protection from excessive light and heat, and for the same reason only the bath-rooms have small direct windows.

EXMOUTH DEVELOPMENT

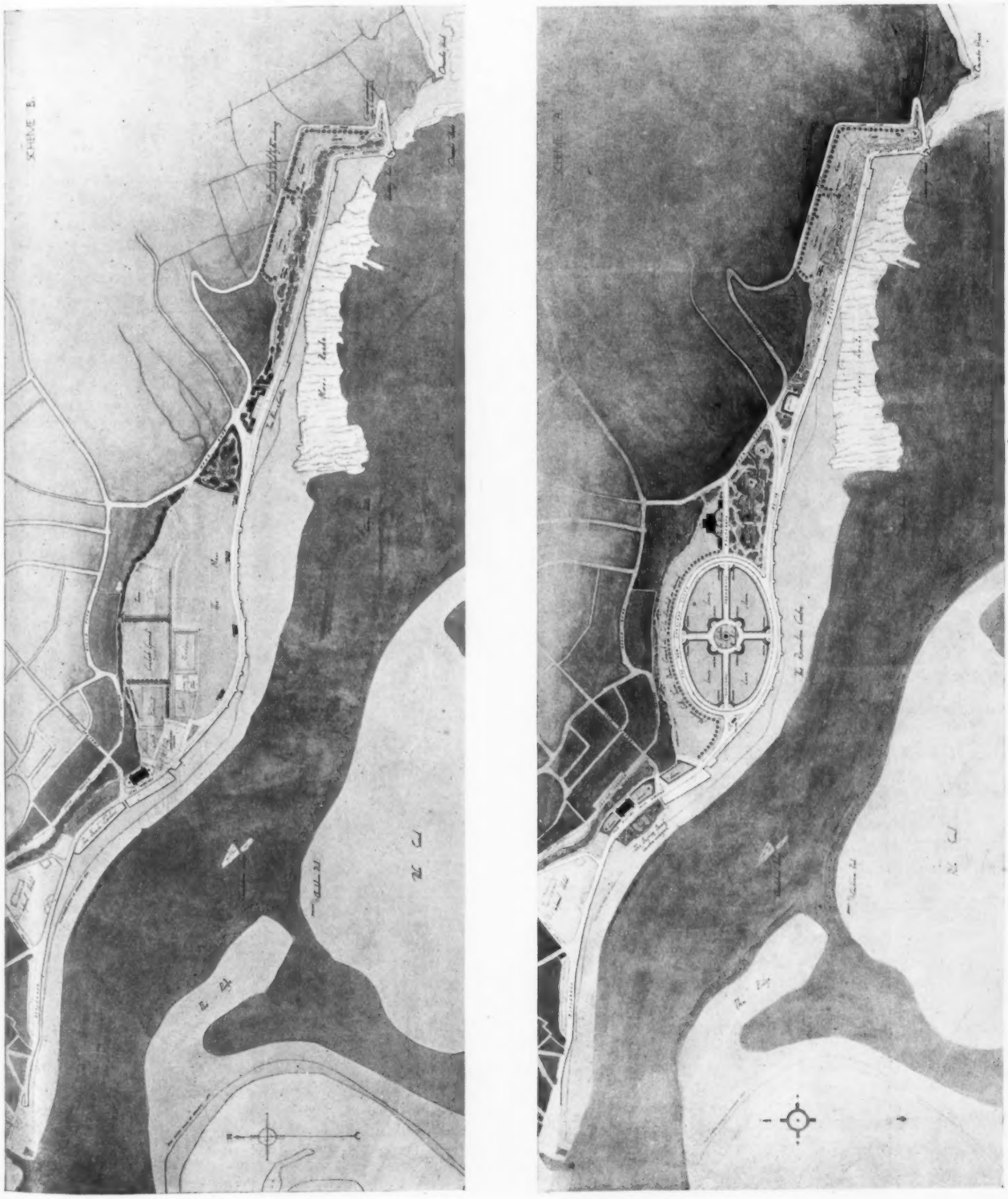
THE plans illustrated on this page show the proposed "lay-out" of the foreshore at Exmouth, South Devon. Plan "A" shows what might be done by utilising the whole of "The Maer," but this does not find favour as it destroys the natural beauty of the foreshore. In plan "B" the sports fields are improved and enlarged, and accommodation provided for visitors in the way of shelters, combined with provision for refreshments and a pavilion. The Marine-drive is continued round the picturesque Orcombe Point, thereby giving easy access to the Cove, at all times and tides, and opening up the higher lands above the Drive and proposed cliff walks.

The design is by Mr. E. Vincent Harris, F.R.I.B.A.

Mediæval Architecture.

Sir Banister Fletcher, F.R.I.B.A., will continue his series of University Extension Lectures on the History of Architecture at the Central School of Arts and Crafts, Southampton-row, next session, by delivering a course of twenty-four lectures on "Mediæval Architecture." The first lecture, on Wednesday, October 1, at 6 p.m., is open to the public without fee.

Sir Banister will deal with the mediæval architecture of all European countries, devoting the major portion of his time to that of Italy, France and England; each of his lectures will be fully illustrated by means of his collection of specially prepared lantern slides.



Lay-out of Foreshore, Exmouth. By MR. E. VINCENT HARRIS, F.R.I.B.A.

Accepted Design, Greenwich Baths Competition. By Messrs. F. J. Horth & H. Andrew, AA.R.I.B.A.

[This perspective is a water-colour sketch of the Trafalgar-road frontage, to be faced in 2½ in. multi-coloured bricks, a Portland stone frieze the depth of the first-floor windows, and the roofing in red Roman tiles.]

New Premises for the Midland Bank, Piccadilly.

Mr. T. B. Whinney, F.R.I.B.A., Architect to the Bank; elevations by Sir Edwin Lutyens, R.A.

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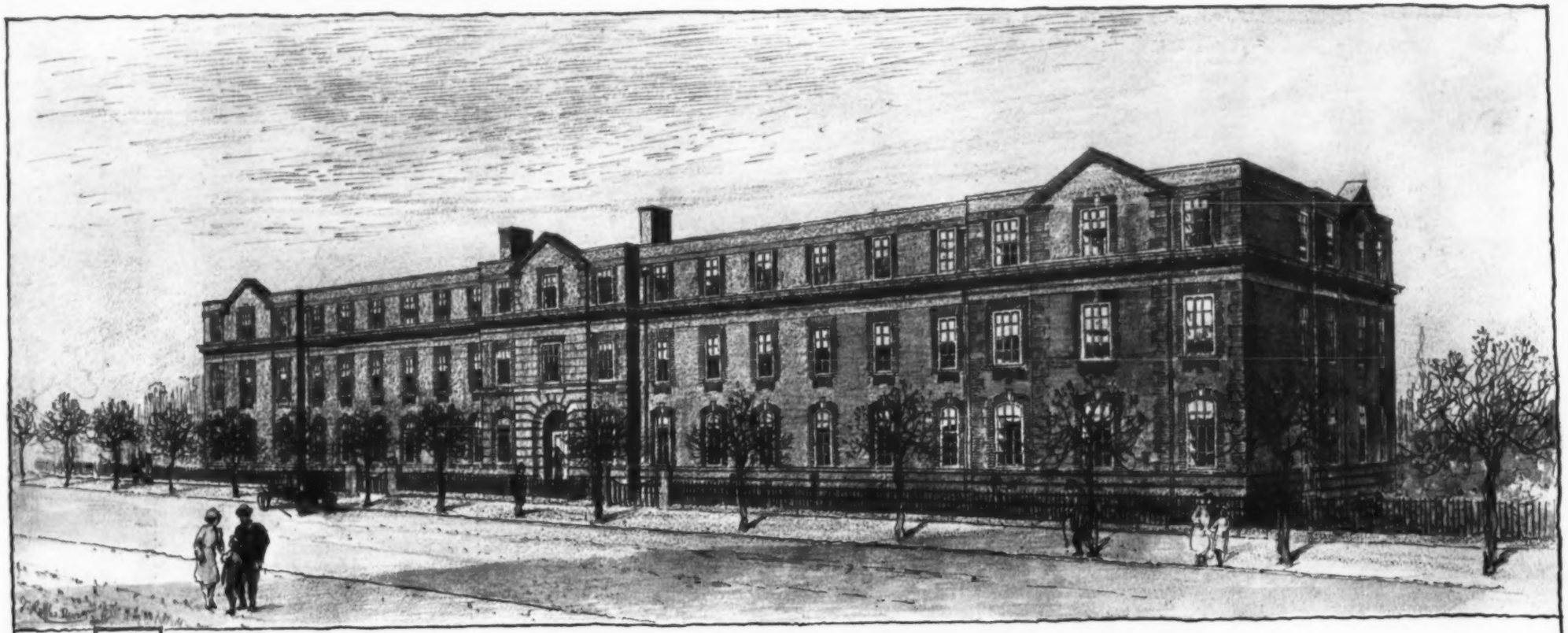
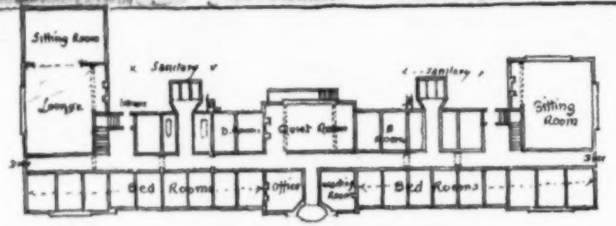
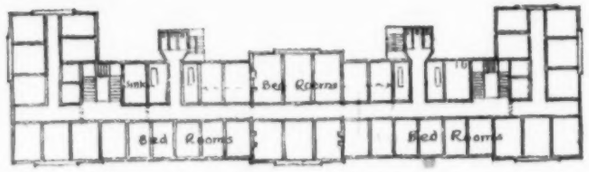




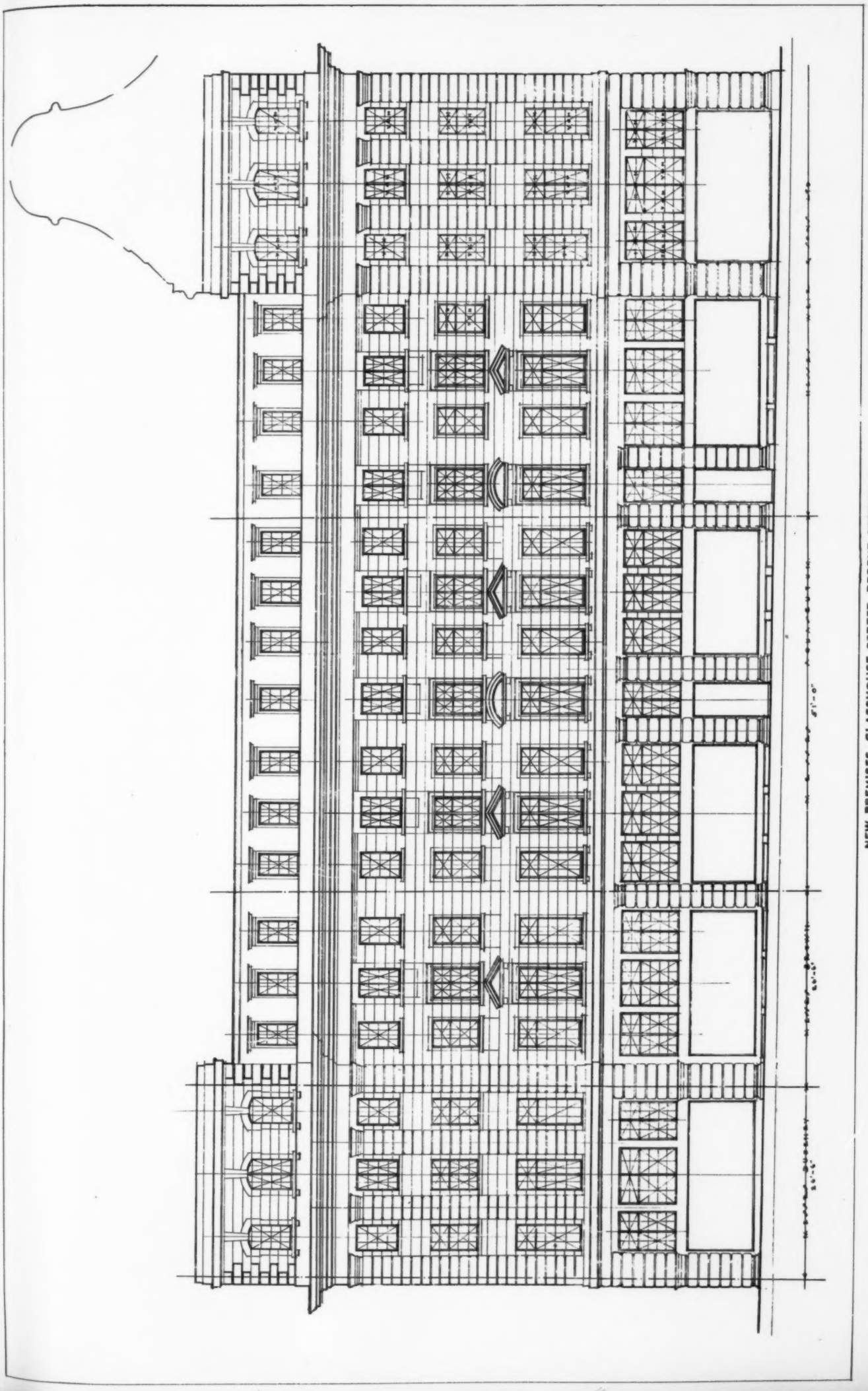
GROUND FLOOR PLAN

ROYAL BERKSHIRE HOSPITAL
NEW NURSES HOME
CRAVEN ROAD READING

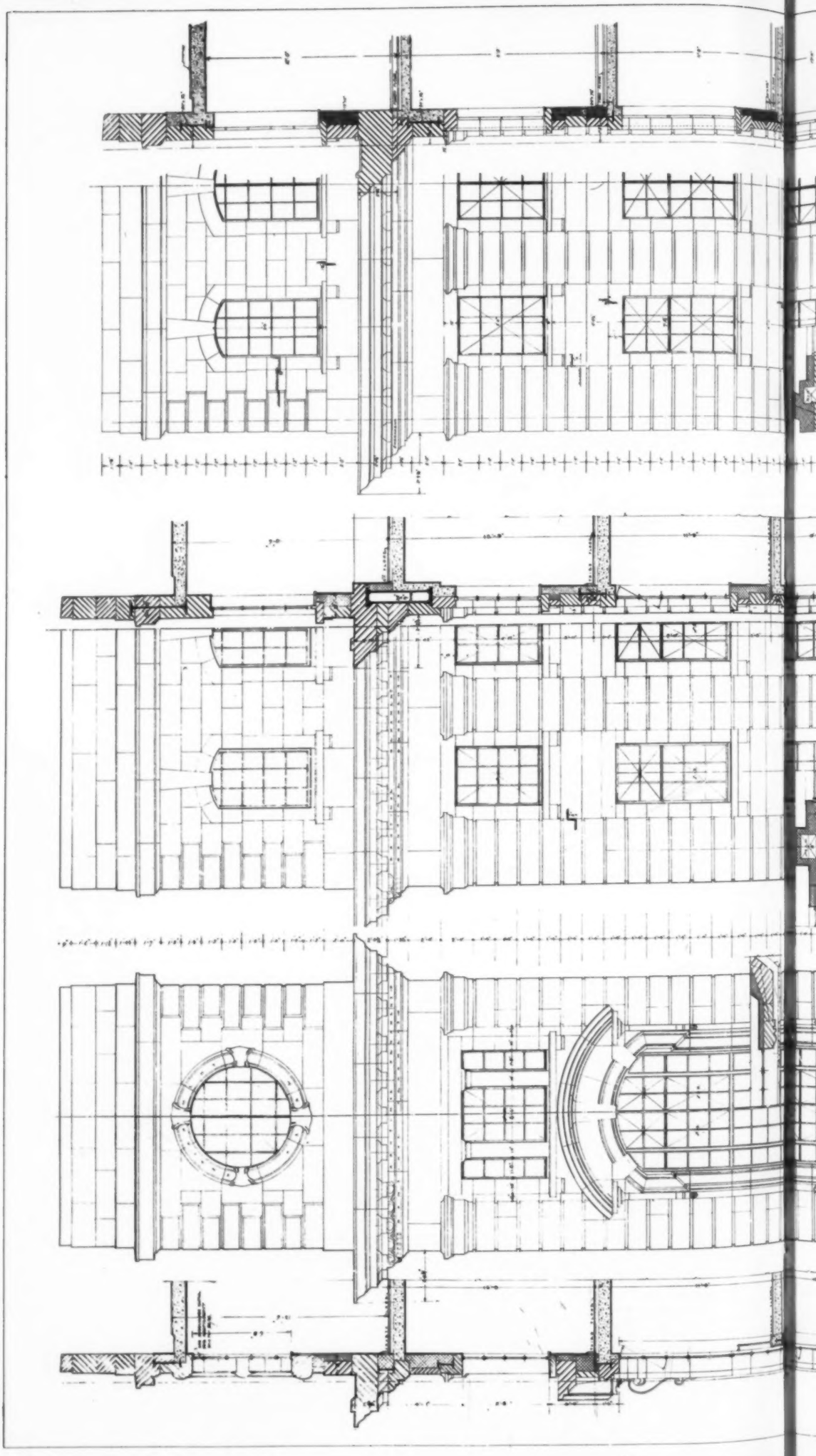
CHAS SMITH & SON (HY HUTTS-1 1 b d) ARCHITECTS READING

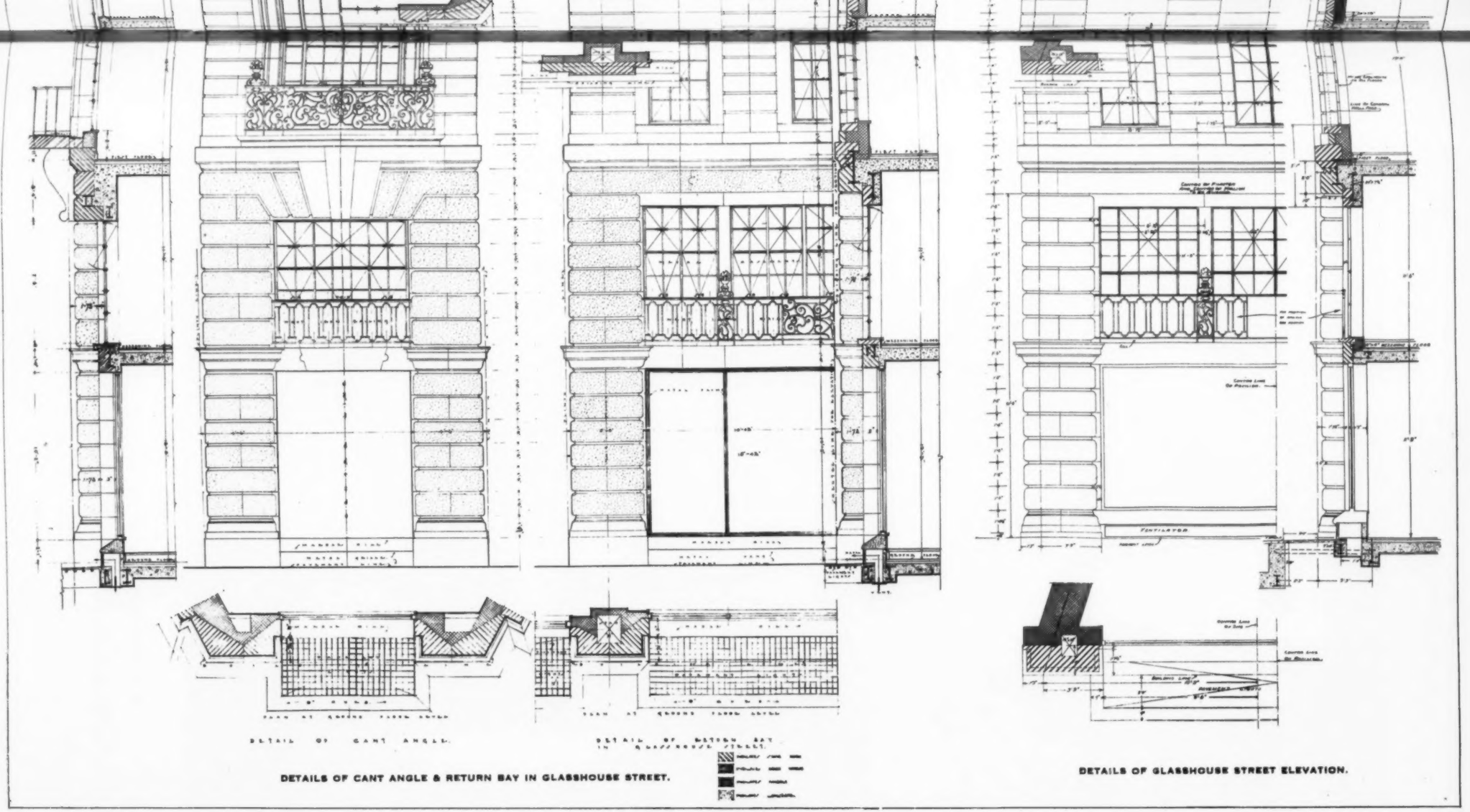


1ST AND 2ND FLOORS



NEW PREMISES, GLASSHOUSE STREET, REGENT STREET, W.
MESSRS. YATES, COOK & DARBYSHIRE, ARCHITECTS.





DETAILS OF CANT ANGLE & RETURN BAY IN GLASSHOUSE STREET.

DETAILS OF GLASSHOUSE STREET ELEVATION.

NEW PREMISES, GLASSHOUSE STREET, REGENT STREET, W.

MESSRS. YATES, COOK & DARBYSHIRE, ARCHITECTS.

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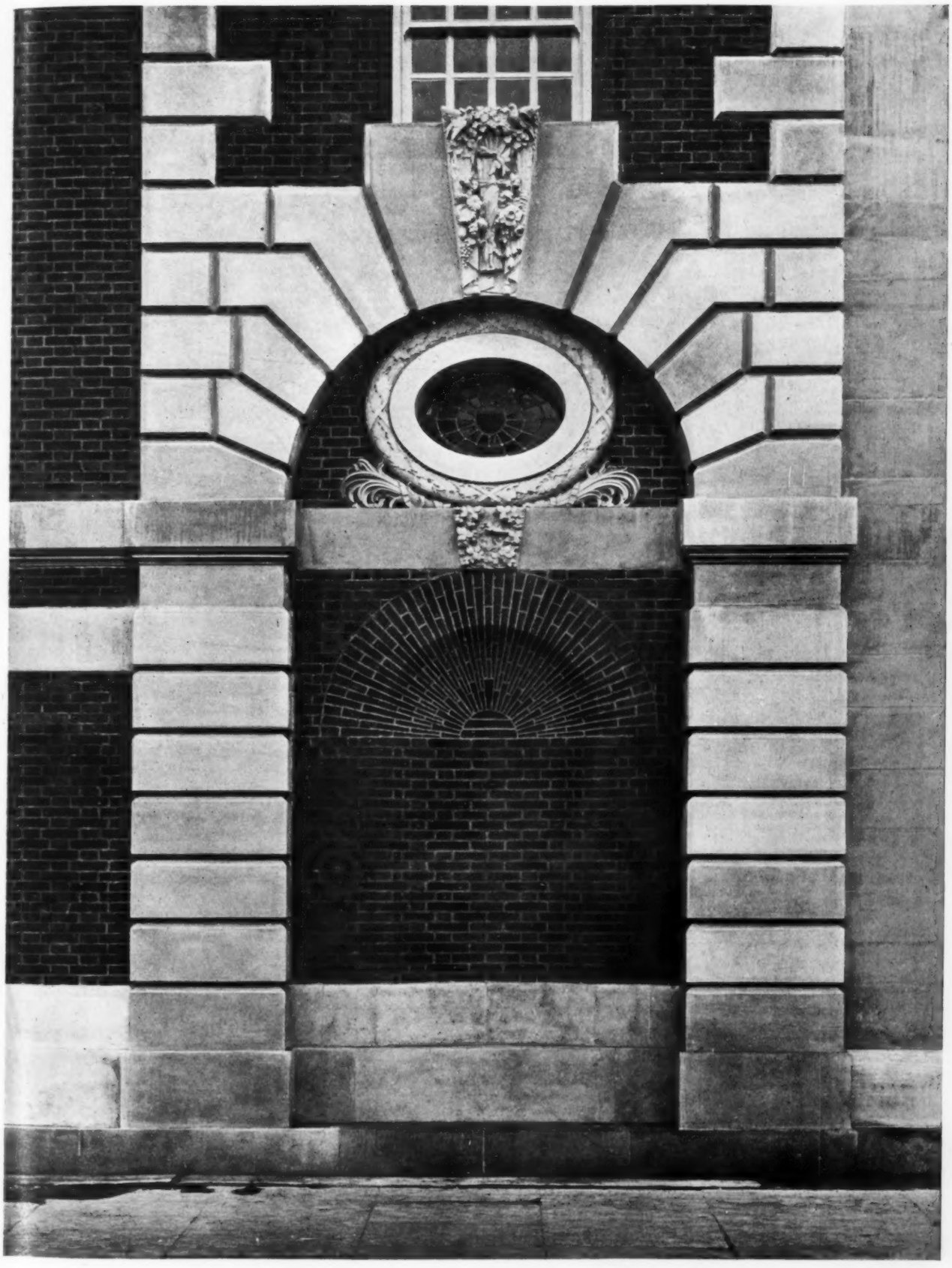

New Premises for the Midland Bank, Piccadilly.

Mr. T. B. Whinney, F.R.I.B.A., Architect to the Bank; elevations by Sir Edwin Lutyens, R.A.

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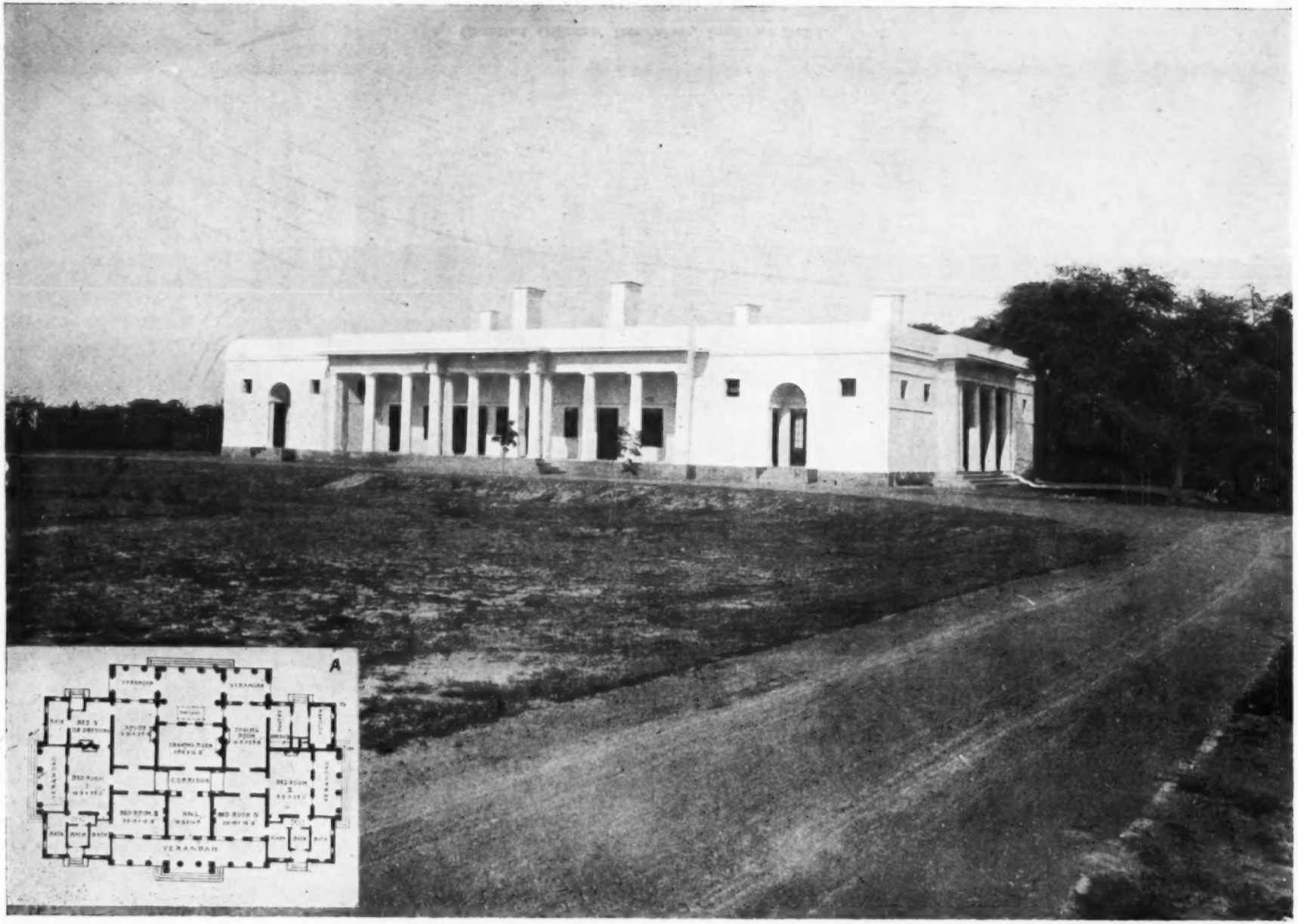
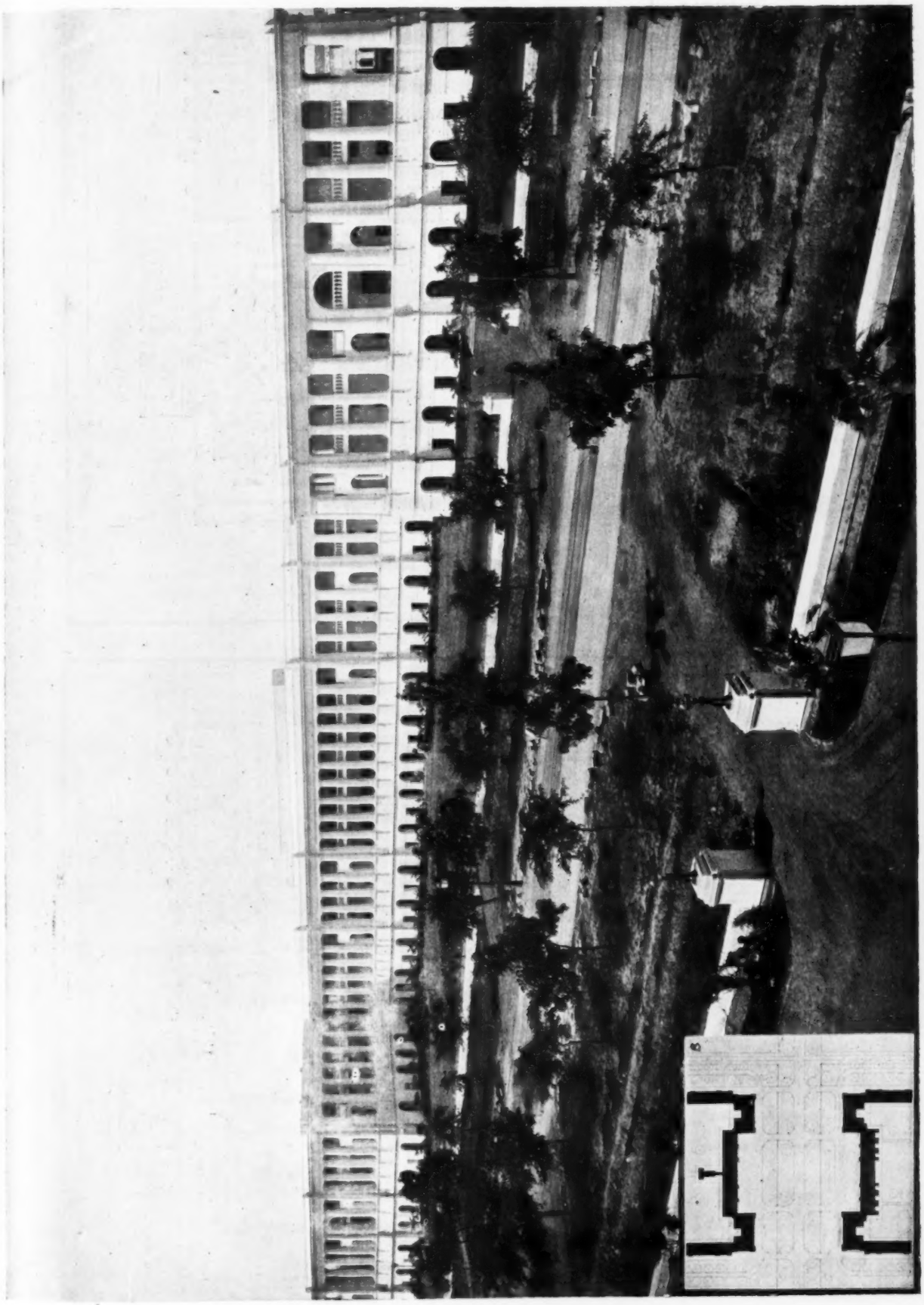
Gazetted Officers' Bungalow, Imperial Delhi.

MR. R. T. RUSSELL, F.R.I.B.A., Architect.



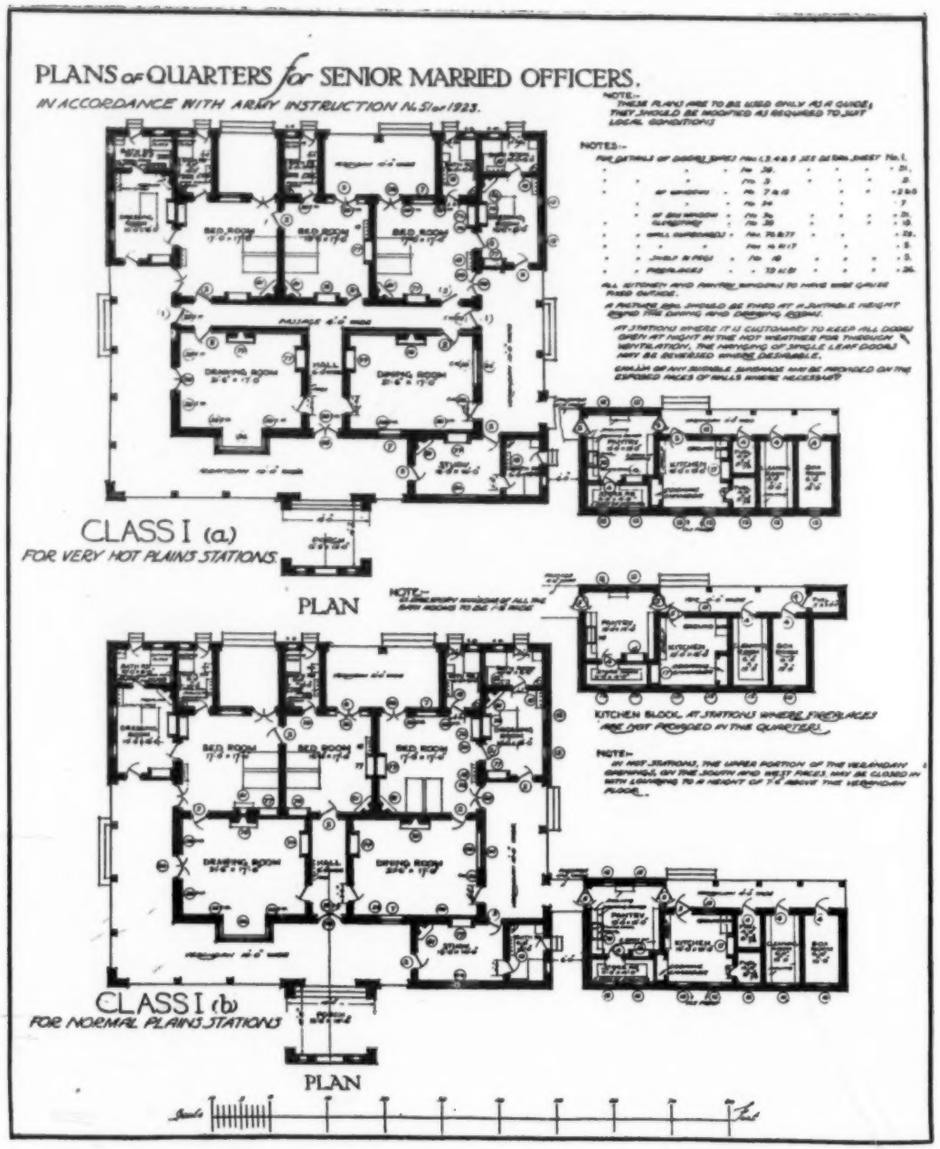
Gazetted Officers' Bungalow, Imperial Delhi.

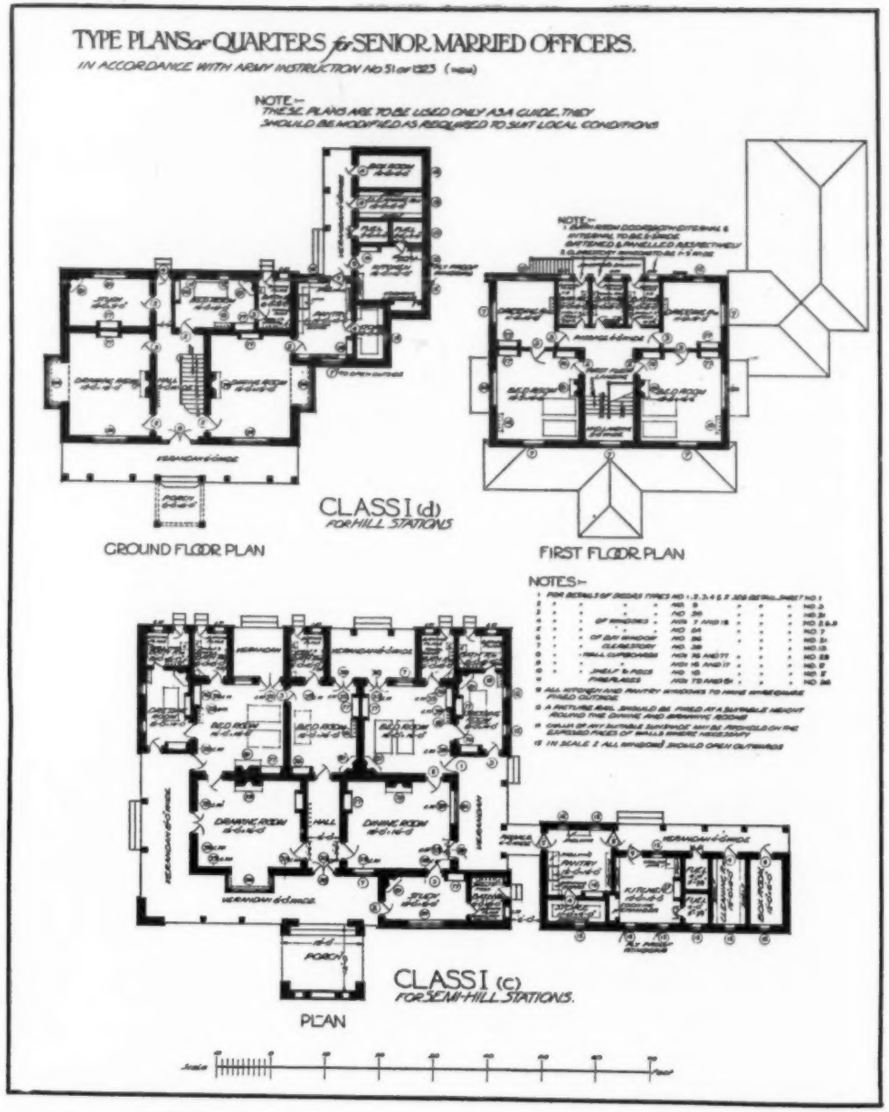
MR. R. T. RUSSELL, F.R.I.B.A., Architect.



Hostels for Members of Legislative Council, Imperial Delhi.

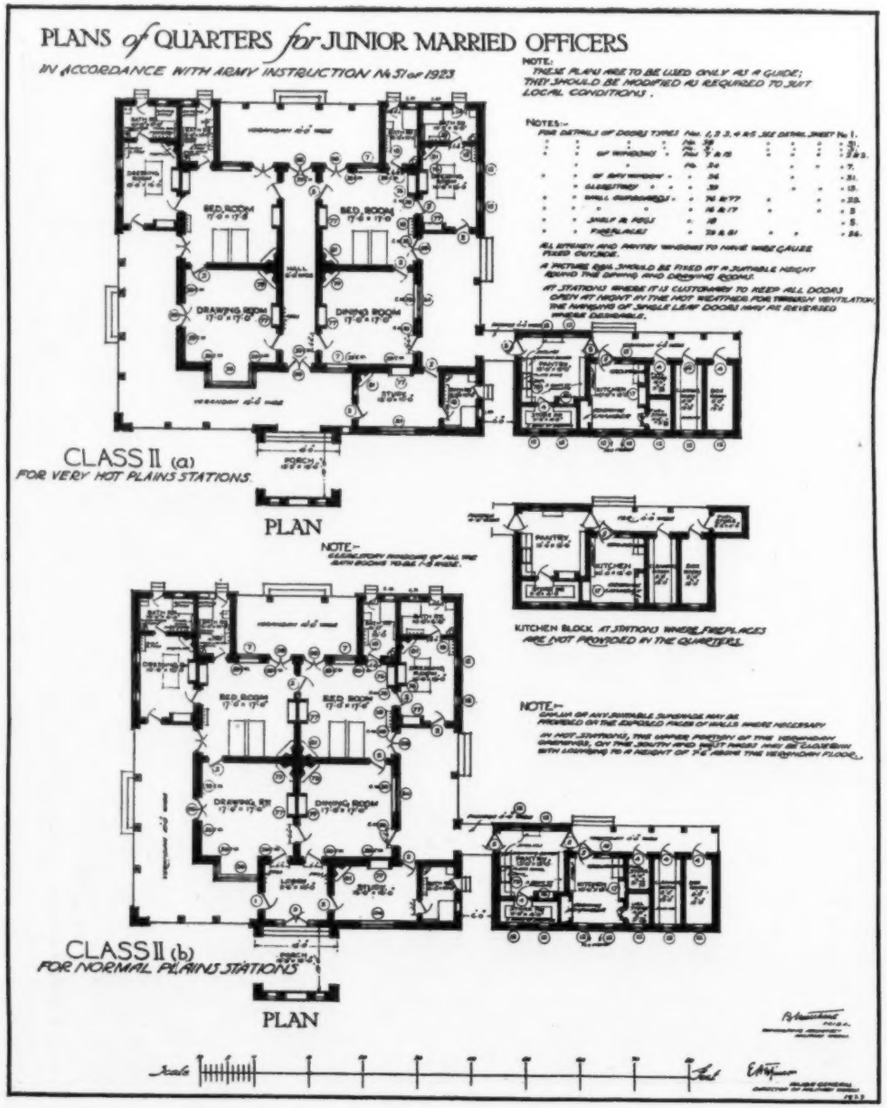
MR. R. T. RUSSELL, F.R.I.B.A., Architect.

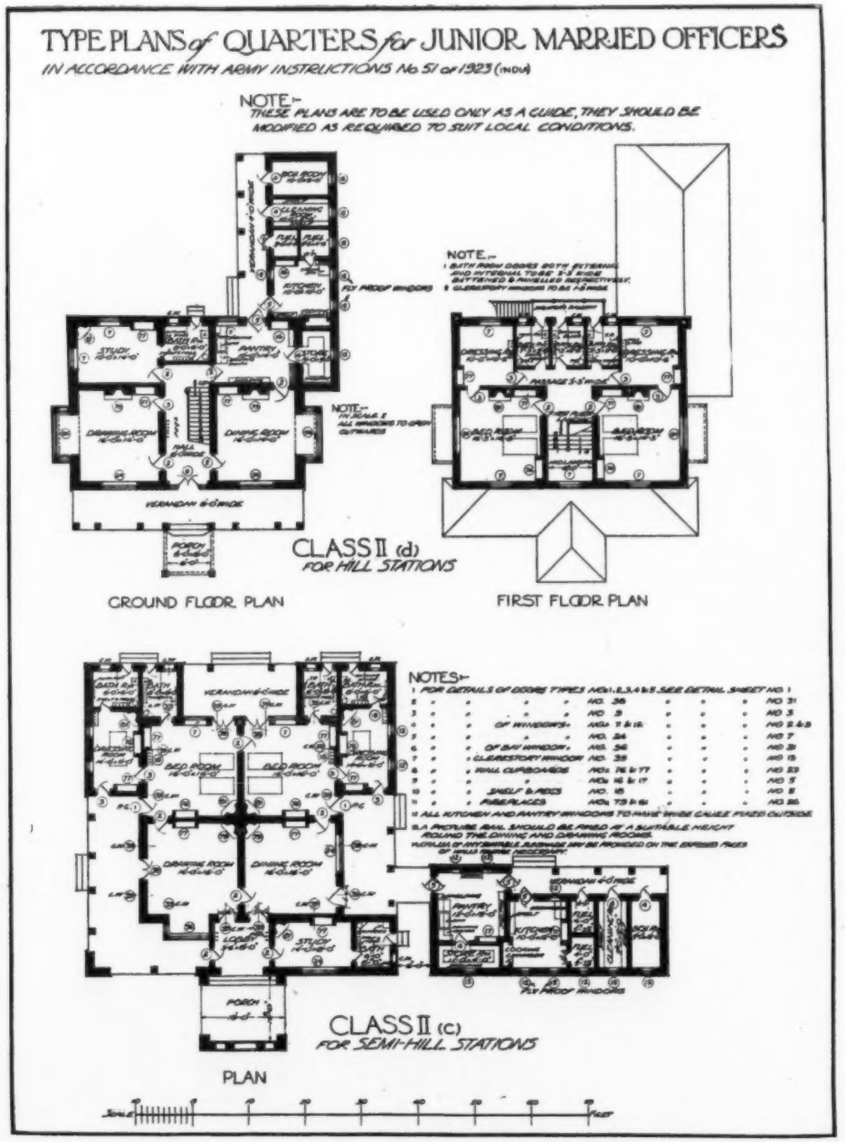

PLANS of QUARTERS for SENIOR MARRIED OFFICERS.
IN ACCORDANCE WITH ARMY INSTRUCTION No. 51 of 1923.
NOTE:—
THESE PLANS ARE TO BE USED ONLY AS A GUIDE; THEY SHOULD BE MODIFIED AS REQUIRED TO SUIT LOCAL CONDITIONS.
NOTES:—
ALL KITCHEN AND PANTRY WINDOWS TO HAVE WIRE GAUZE FIXED OUTSIDE.
A PICTURE RAIL SHOULD BE FIXED AT A SUITABLE HEIGHT ROUND THE DINING AND DRAWING ROOMS.
AT STATIONS WHERE IT IS CUSTOMARY TO KEEP ALL DOORS SHUT AT NIGHT IN THE HOT WEATHER FOR THROUGH VENTILATION, THE HANGING OF SINGLE LEAF DOORS MAY BE REVERSED WHERE DESIRABLE.
GRAIN OF ANY SUITABLE SURFACE MAY BE PROVIDED ON THE EXPOSED FACES OF WALLS WHERE NECESSARY.
CLASS I (a)
FOR VERY HOT PLAINS STATIONS.
PLAN
NOTE:—
KITCHEN BLOCK AT STATIONS WHERE FIREPLACES ARE NOT PROVIDED IN THE QUARTERS.
NOTE:—
AT HOT STATIONS, THE UPPER PORTION OF THE VERANDAH OPENINGS, ON THE SOUTH AND WEST FACES, MAY BE CLOSED IN WITH LOUVRES TO A HEIGHT OF 7'6" ABOVE THE VERANDAH FLOOR.
CLASS I (b)
FOR NORMAL PLAINS STATIONS.
PLAN


TYPE PLANS for QUARTERS for SENIOR MARRIED OFFICERS.
IN ACCORDANCE WITH ARMY INSTRUCTION No. 51 of 1923 (1924)
NOTE:—
THESE PLANS ARE TO BE USED ONLY AS A GUIDE; THEY SHOULD BE MODIFIED AS REQUIRED TO SUIT LOCAL CONDITIONS.
GROUND FLOOR PLAN
CLASS I (d)
FOR HILL STATIONS.
FIRST FLOOR PLAN
NOTES:—
CLASS I (c)
FOR SEMI-HILL STATIONS.
PLAN

Quarters for Married Military Officers in India.

MR. B. MATTHEWS, F.R.I.B.A., Architect. (*See p.* 472.)


PLANS of QUARTERS for JUNIOR MARRIED OFFICERS
IN ACCORDANCE WITH ARMY INSTRUCTION No 51 of 1923
NOTE:
THESE PLANS ARE TO BE USED ONLY AS A GUIDE;
THEY SHOULD BE MODIFIED AS REQUIRED TO SUIT
LOCAL CONDITIONS.
NOTES:-
CLASS II (a)
FOR VERY HOT PLAINS STATIONS.
PLAN
NOTE:-
KITCHEN BLOCK AT STATIONS WHERE FIREPLACES
ARE NOT PROVIDED IN THE QUARTERS.
NOTE:-
CLASS II (b)
FOR NORMAL PLAINS STATIONS
PLAN


TYPE PLANS of QUARTERS for JUNIOR MARRIED OFFICERS
IN ACCORDANCE WITH ARMY INSTRUCTIONS No 51 of 1923 (INDIA)
NOTE:-
THESE PLANS ARE TO BE USED ONLY AS A GUIDE, THEY SHOULD BE
MODIFIED AS REQUIRED TO SUIT LOCAL CONDITIONS.
NOTE:-
CLASS II (d)
FOR HILL STATIONS
GROUND FLOOR PLAN
FIRST FLOOR PLAN
NOTES:-
CLASS II (c)
FOR SEMI-HILL STATIONS
PLAN

Quarters for Married Military Officers in India.

Mr. B. Matthews, F.R.I.B.A., Architect.

NEW PREMISES, GEORGE-STREET, OXFORD

THIS building is in course of erection for Messrs. Twining Brothers, wholesale and retail grocers. The front elevation is being carried out with Luton bricks of varying colours and Messrs. Lawrence's cherry-red bricks for quoins. The base and dressings are in Clipsham stone. The building is of ferro-concrete framed construction throughout.

The general contractors are Messrs. Wooldridge & Simpson, Oxford. The engineers for the ferro-concrete work are Messrs. The Birmingham Concrete Steel Co., Birmingham.

The steel sashes are being supplied by Mr. J. H. Pye, Moreton-in-Marsh, the electric goods lift by Messrs. R. A. Evans, Ltd., Leicester, the heating by Messrs. Young, Austen & Young, Leicester, the pavement and floor lights by Messrs. Haywards Bros., the rolling shutter by Messrs. Haskins, Ltd., the granolithic stairs by Messrs. Stuarts Granolithic Co., Ltd.

The architect is Mr. Gilbert T. Gardner, Lic.R.I.B.A., 7, St. Aldate's, Oxford.

OBITUARY

The Late H. K. G. Bamber.

BY the tragic death of Mr. Henry Kelway Gwyer Bamber, J.P., who was killed in a motor-car accident near Gravesend last week, the cement industry and those interested in the development of concrete as a building material have lost one of their keenest and most popular friends. He was born in 1864, and commenced his business life in the office of his father, the late Henry Kelway Bamber, as an analytical chemist. Later, he took the post of chemist in the Portland cement works of Messrs. J. R. Patrick & Sons, of Harwich, and afterwards entered the service of Messrs. Knight, Bevan & Sturge, probably the oldest firm of cement manufacturers in the world. In this firm he very soon became a junior partner, and joined the board of the Associated Portland Cement Manufacturers, Ltd., on its formation in 1900. Of this concern he acted as one of the managing directors for twenty-three years, and he also became a managing director of the British Portland Cement Manufacturers, Ltd., on its formation at a later date. Both these positions he occupied until the close of last year, when he relinquished the managing directorships, but retained a seat on both boards as a consultant, in which capacity his knowledge and foresight were of very great value. He was one of the founders of the Concrete Institute (now the Institution of Structural Engineers); in this body he took a great interest and was one of its most active committeemen, and was last year elected a vice-president. An original member of the Sub-Committee of the British Engineering Standards Committee, formed to draft a standard specification for Portland cement, during the past two years he had been engaged on numerous investigations in connection with the revision of the specification now in progress.

New Premises, Oxford. MR. GILBERT T. GARDNER, Lic.R.I.B.A., Architect.

LEGAL SECTION

NOTES ON CURRENT CASES

Rent Restriction: Tenant Furnishing and Sub-letting.

THE case Prout *v.* Hunter, which we briefly noted, May 30, has been carried to the Court of Appeal and is reported in *The Times*, July 31.

The case raised a question of some difficulty under the Rent Acts. The plaintiff was the owner of a block of flats and had let three flats unfurnished to one of the defendants, a Mrs. Hunter, who occupied one of the flats herself but furnished the two others and let them as furnished flats to two tenants who appear also to have been parties to this action. The plaintiff had given Mrs. Hunter notice to quit and, from the report at present available, it does not appear what order was made as regards the flat she occupied herself, as the appeal was limited to the case of the furnished flats, the question being whether they were under the protection of the Rent Acts. The point depends upon Section 12, subsection (2), proviso (i) of the Rent Act, 1920, which provides: "This Act shall not save as otherwise expressly provided apply to a dwelling house *bona-fide* let at a rent which includes payments in respect of board, attendance or use of furniture," and the Divisional Court had held that this proviso applied to the status of the premises at the particular time—that is to say, the letting to the occupying tenants had to be regarded and not the letting to the original tenant.

In the Court of Appeal it was argued that there was a difficulty in reconciling this proviso with sections 9 and 10 of the Act which relate to furnished lettings, as those sections might be indicated by the words "save as otherwise expressly provided," but the Court of Appeal pointed out that the Statute operated in two ways—it protected the tenant as to the rent to be paid, and it protected him from eviction, and sections 9 and 10 relate only to rent but have no bearing on the question of eviction. Therefore the words in the proviso, "save as otherwise expressly provided," apply to the conditions as to rent in sections 9 and 10, but have no bearing on obtaining possession. The Court thus decided that what had to be regarded was the status of the premises at the material time—that is, when the claim for possession was made, a decision which it pointed out was in accordance to the case of Glossop *v.* Ashley (1922, 1 K.B. 1, THE BUILDER, April 15, 1915).

It thus appears that if a sub-tenant takes from the tenant of premises let to that tenant unfurnished, premises or part of premises furnished by the tenant, those premises or parts of premises pass out of the protection of the Act, but it appears to us that some questions may arise as to procedure unless, as we understand was the case here, the sub-tenants are also joined as parties when possession is claimed, for otherwise the sub-tenant may rely either upon section 5, subsection (5), which provides: "An order or judgment against a tenant for the recovery of possession of any dwelling house, or ejectment therefrom under this section, shall not affect the right of any sub-tenant to whom the premises or any part thereof have been lawfully sub-let, before proceedings for recovery of possession or ejectment were commenced to retain possession under this section, or be in any way operative against any such sub-tenant," or upon section 15, subsection (3). This section has a side note, "conditions of statutory tenancy," but subsection (3) is in general terms and provides "Where the interest of a tenant of a dwelling house to which this Act applies is determined either as the result of an order, or judgment for possession, or ejectment, or for any other reason, any sub-tenant to whom the premises or any part thereof have been lawfully sub-let shall, subject to the provisions of this Act, be deemed to have become the tenant of the landlord on the same terms as he would have held from the tenant if the tenancy had continued."

The sub-tenant therefore appears, even in the case of a house let furnished, as in this case, to be able to hold the premises and to avail himself of the provisions as to rent contained in sections 9 and 10, but if the landlord desires to get rid of him then he can do so for the premises are not protected as to possession, and section 5 which relates to "Restriction on right to possession" according to the decision in this case does not apply.

It may be remembered that proviso (i) to section 12, subsection (2) and sections 9 and 10 were both amended in the Act of 1923, in section 10, but the amendment does not touch the point decided in this case.

Subsection (1) of section 10 of the Act of 1923 only provides that the proviso excluding the premises from the operation of the Act of 1920 shall only apply where the charges for attendance or the use of furniture, regard being had to the value to the tenant of the same, forms a substantial portion of the whole rent, as otherwise it is not to be deemed a *bona-fide* letting within the proviso. Subsection (2) provides that in section 9 and 10 of the Act of 1920 "the expressions 'landlord' and 'tenant' shall, respectively be substituted for the expressions 'lessor' and 'lessee.'" The reason for this latter amendment appears to be that the former expressions are defined in section 12 of the Act of 1920, whilst the latter are not.

Liability under the Employers' Liability Act, 1880.

Since the principle of Workmen's Compensation was adopted there has been a steady decrease in the cases brought under the Employers' Liability Act, 1880. That Act marked the first stage in extending the liability imposed by common law for accidents to employees, a law which proved defective for many reasons, but perhaps mainly by the doctrine imposed upon it that the workman took the risk of acts done by his fellow workman, that is roughly stated the doctrine of "common employment."

The Employers' Liability Act did away with some of the hardships under the common law, but it was a highly technical Statute involving complicated considerations, and for many years the Law Courts in each year had to consider a number of cases involving these technical points, but in 1897 the introduction of the first Workmen's Compensation Act brought in some degree the principle of insurance from accident into practice, and although the compensation recoverable might be less the workmen preferred to take a sum certain, rather than thread the intricacies of the Employers' Liability Act.

A recent case, James Nimmo & Company, Ltd. *v.* Connell (1924 A.C. 595) has reached the House of Lords on appeal from the First Division of the Scotch Court of Session in connection with the Employers' Liability Act, and it is a reminder of the complication of the Act to find that the House was unable to come to a unanimous decision, but was divided three to two.

Section 1, paragraph (1) of the Employers' Liability Act provides that where personal injury is caused to a workman "by reason of any defect in the condition of the ways, works, machinery or plant connected with, or used in the business of, the employer," the workman shall have the same right of compensation and remedies against the employer as if the workman had not been a workman of, nor in the service of, his employer, nor engaged in his work. In other words his common law rights are extended to the conditions of employment subject to the limit of compensation fixed by section 3.

Section 2, paragraph (1), however, provides that the workman shall not be entitled to any right of compensation or any remedy against the employer under the above paragraph unless the defect therein mentioned arose from, or had not been discovered or remedied owing to the negligence of the employer, or of some person in the employment of the employer, and entrusted by him with the duty of seeing that the ways, works, machinery, or plant were in proper condition.

By subsection 3 the workman is debarred from remedy if he knew of the defect but failed to report it unless he was aware that the defect was already known.

In the case in question the injured workman had been employed as a "brusher" in a mine worked by the appellants. It was a "gassy" mine, that is to say it was a mine where inflammable gas was known to be present. Such mines can be worked subject to the provisions of the Coal Mines Act 1911, which are very comprehensive, but amongst those provisions, in a mine worked as this one was in shifts, it is provided that no place shall remain uninspected for more than five hours. The fire examiner, whose duty it was to carry out this inspection, had neglected to do so in the section where the man was employed, and the accident was caused by the accumulation of gas in the working which was ignited by a spark from a coal-cutting machine which other men were working improperly, having neglected to screw down the cover properly. The question to be decided was as follows: Was the presence of gas at the working place, which had not been discovered owing to the negligence of the fire examiner, a defect in the ways within the meaning of the Section 1, paragraph (1)? It may here be noted that the Sheriff who had tried the case had found in one of the findings of fact that "At the time of the explosion the ventilation provided failed to dilute and render harmless inflammable gas to such an extent as to make the working place in the vicinity of the top of the heading unfit for working." This, however, appears not to have been due to a defective system, but to have been a condition which might occur in a "gassy" mine, and which had to be guarded against by repeated inspections in compliance with the Mines Act. The trend of many decisions given upon this paragraph of the section has been that the defect must be of a permanent or quasi-permanent nature.

With these preliminary observations we will now turn to the judgments delivered in the House of Lords, taking first the opinions delivered by the majority who held that the man was entitled to recover the damages awarded, viz., £325. Lord Atkinson said: "In my view, therefore, there is a defect, within the meaning of section 1, subsection (1), in the condition of ways and works in a mine when from any cause they are in a condition which renders them unfit for the uses for which they are designed, to which they are intended to be put and are in fact being put." He then went on to say that it might have been expected that in the forty-three years that have elapsed since the Employers' Liability Act was passed the meaning of this subsection would have been definitely and clearly determined, yet that was not the case, and he then proceeded to examine the decided cases to show that, on the whole, they supported the view he had expressed. He found some support in the judgment delivered by Lord Watson in the House of Lords in Smith *v.* Baker (1891 A.C. 325) in which, although the crane itself in use was not defective, it was used in a manner which made the system defective, and in a dictum in Walsh *v.* Whiteley (21 Q.B.D. 378), and especially relied upon Tate *v.* Latham (1897 I.Q.B. 502) where a guard had been removed from a circular saw for his own convenience by the sawyer, and yet the absence of the guard was held a defect in an action by a workman who had fallen against the saw.

The decision in McGiffen *v.* Palmers' Shipbuilding & Iron Co. (10 Q.B.D. 5) where a

man was injured by a temporary obstruction having negligently been left in the way, Lord Atkinson considered had been wrongly decided as against the man, and Lord Dunedin agreed with this view. Lord Shaw of Dunfermline agreed with the judgment delivered by Lord Atkinson, but referred to Butler or Black *v.* Fife Colliery Co. (1909 S.C.H.L. 33), a case relied upon by the sheriff, and agreed with his finding that the presence of gas causing danger in a factory does not resemble a casual obstruction affecting the safety of ways, but at all events in a "gassy" mine is one of the dangers to be guarded against by special precautions.

In the sheriff's judgment, which Lord Shaw also expressly agreed with, was a finding that the condition imposed by subsection (2) was satisfied in that the defect was not discovered owing to lack of inspection, and lastly that under subsection 3 the burden of proving that the accident would not have been prevented lies on the person responsible.

Lord Dunedin agreed with the opinions delivered by Lords Atkinson and Shaw. It is not necessary to refer at length to the opinions expressed by the dissentient minority in the House, Lords Phillimore and Blanesburgh. It is sufficient to say they adopted the view which is strongly supported by the decided cases that the defect must be a standing defect and not of a temporary character, and there is much to be said for this view for a "gassy" mine must always be dangerous, and here all the statutory precautions had been observed to obviate that source of danger, whilst in Black's case the noxious but uninflammable gas was difficult to discover and guard against, and no safeguards were existent (Lord Blanesburgh made this point clear), therefore the accident here arose in the opinion of the minority, not from a defect under section 1, paragraph (1), which was the paragraph the House was considering.

The importance, therefore, of the majority judgments in this case lies in the fact that it gives an extended operation to section 1, paragraph (1), which coupled with Section 2, paragraph (1), imposes liability on employers in respect to the condition of the ways, works, machinery, or plant irrespective of negligence of the fellow-employees, except in so far as the latter paragraph makes it a condition that the defect arose from, or was not discovered through, the negligence of the employer or of some person entrusted by him with the duty of inspection.

"THE MITRE," OXFORD*

"A CLERK there was of Oxenford also
That unto logyk haddé long y-go,"

And Chaucer goes on to tell us that his horse was as lean as a rake and he himself anything but fat or well clothed being unbeneficed and, what's more, so unworldly-minded that—

"For him was levere have at his beddes heed
Twénty bookés clad in blak or reed
Of Aristotle and his philosophie."

We may well imagine that his bed's head may have been in the old Mitre Inn. Chaucer was writing his "Canterbury Tales" in 1386–88, and probably had in mind some such hostel as "The Mitre," which in 1364 was known as "Croxford's Inn," and perhaps in 1374 as "Dagville's Inn" although there is some slight doubt about this latter nomenclature. "The Mitre" under its present or earlier name or names, is nearly as venerable as the University. We must think of it in its youth more as a religious hostel than as a hotel, in the same sense in which we differentiate between the Inn or Tavern, and the Legal Inn.

Oxford University was a venerable institution even in Chaucer's days. It is said to have had small beginnings in or about the year 1199, when seven poor pedestrians journeyed thither with empty purses and tightened belts in the hopes of earning a livelihood by imparting crumbs of knowledge to the children of the Burghers of Oxeneford. But away down the ages from the days of the Saxon Kings it was a seat of learning under the benign influence of Alfred the Great, and from the days of the Conquest its schools were famed the world over. The seven poor scholars had no "Croxford's" or "Mitre," but perforce one, for a few pence, was content to hire a cobwebby garret, another a room over a beershop, whilst a third and more venturous spirit managed to get, rent free, the use of a disused stable, a loft, an old hen house, and a small court containing a large water-butt on the understanding that he would teach the "three R's" to his landlord's three sons. Whether he held out the contents of the water-butt as an inducement to cleanliness in his scholars or, Diogenes like, slept in its cavernous depths, history does not say. Here was the protoplasmic University, and here the germ of the College "Inn."

It is of these and many more interesting things that Mr. Spiers tells us in his delightful little book "Round About 'The Mitre' at Oxford." He does not pretend to give us the whole history of the University City, but is content to give us a quite comprehensive sketch of one of England's famous Inns, which can boast of having never been bought or sold for upwards of 600 years, and has been in one ownership—that of Lincoln College—for nearly 400 years.

The Inn is his first charge, but he gives us the setting quite adequately in the chapters dealing with the "roundabout" such as Lincoln College, The Carfax, The Turl, the Churches of St. Mary, St. Michael and All Saints, with illustrations produced from old prints and charming pencil sketches by Walter Gandy. The man who knows his Oxford will want to read the book and he who does not will, on reading, probably emulate the seven poor scholars with the difference that, like Falstaff, he will say "Shall I not take mine ease in mine inn?"

* "Round About 'The Mitre' at Oxford," by R. A. H. Spiers. Published at "The Mitre" Hotel, Oxford.

Prestatyn Institute.

A new institute, built at a cost of £12,000, was recently opened at Gronant, near Prestatyn. The architect is Mr. F. A. Roberts, M.S.A., of Mold; and the builders are Messrs. Griffiths, Sons & Cromwell, Ltd., Upper Duke-street, Liverpool.

Pavilion at Wembley. MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

[This small pavilion shows a design for exhibiting the books of the publishing firm, Messrs. Cockerell, Willis & Bellière, Ltd. It is a simple design in red, black and gold, and stands in the open near the entrance to the Amusement Park. Messrs. Brand, of Tottenham, were the contractors.]

PRACTICAL DESIGN FOR BUILDING CONSTRUCTION.—IX.

AN ELEMENTARY EXPLANATION OF THE APPLICATION OF THE THEORY OF CONSTRUCTION TO PRACTICAL DESIGN

By EWART S. ANDREWS, B.Sc., M.I.Struct.E., A.M.Inst.C.E.

SECTION II.—FLOORS AND BEAMS (Continued).

Loads and Reactions on Beams (*continued*).

Dead Loads and Live Loads.—In estimating the loads upon beams we divide the loads into two parts.

The first part is called the dead load, and includes all the loads forming a permanent part of the structure; in the dead load must be included the weight of the floor surface itself together with any special finish, such as granolithic or wood-blocks in the case of concrete floors, plaster ceiling construction, etc.

The other part of the load is called the live load, and consists in the load which may come on to the beam from time to time according to what happens to be upon the floor.

Dead loads can, of course, be estimated with great accuracy because the weights are known definitely, but live loads can be ascertained only by the combination of knowledge and judgment; in general, however, we are relieved of the necessity of having to exhibit this rare combination of qualities because the by-laws fix the loads for us.

In estimating the live load to be taken in cases with which the by-laws do not deal we have to remember that the load is what is called the equivalent dead load, and allowance must be made for the "liveliness" of the load; loads which involve impact and vibration should be taken as equivalent to much more than the same loads which are quiet such as water in tanks.

It should here be pointed out that we use the terms dead load and live load in a slightly different sense from that employed in many textbooks on building construction; Rivington, for instance, says that "live loads are those which are suddenly applied or are accompanied by shocks or vibrations," and "dead load is that which is very gradually applied, and which remains steady.

The difficulty is got over to some extent in the L.C.C. regulations by avoiding the use of the term "live load" and saying that the dead load consists of the weight of all permanent construction and calls everything else "superimposed load."

Floor Loads on Buildings.

Although we design our steelwork or reinforced concrete for certain working stresses, it does not at all follow that they will ever be subjected to those stresses. It has been the practice since the dim past, when material and labour were cheap and knowledge was scarce, to err on the safe side in the matter of the loads coming upon buildings, and the ideas of necessary loadings have not been altered, so that at the present time many buildings are capable of carrying at least three times the load which they ever do carry in practice before the stresses reach the "safe" limits upon which they are designed. If we assume that the stresses are based upon a factor of safety of four, we see that the real factor of safety of the building is twelve.

To some people it may be comforting to know that a building is three times as strong as it need be, but an engineer should regard it as a scandal and insist upon its being taxed as a luxury.

The following is a summarised list of floor loads specified in the L.C.C. Reinforced Concrete Regulations, those for the steel frame buildings being the same on the whole, but divided into fewer classes.

Class of Building.	Equivalent dead load in lb. per sq. ft.
A. Domestic buildings	70
B. Hospital wards, hotel bedrooms, etc.	84
C. Offices and counting houses ...	100
D. Theatres, meetings, school rooms, etc., retail shops, workshops	112
E. Ballrooms, drill-halls	150
F. Warehouses, not less than ...	224

Mr. Fleming, of the American Bridge Company, has often written upon this important subject, which was investigated very fully by the late C. C. Schneider, of New York, who issued what are probably the most reliable specifications for floor designs. One point which Mr. Fleming makes is that there should not be a wide difference between the specified load for the same class of floors in different towns, as is at present the case in the United States.

The loads for office floors vary, for instance, from 40 lb. per sq. ft. at Milwaukee to 100 at Boston. There is not the same difference in regulations in this country, mainly because most towns do not have any.

Investigations made in 210 Boston offices showed that the highest floor load was 40.2 lb. per sq. ft.; the highest average load for ten offices was 29.8 lb. per sq. ft., and in many cases it was less than 10.

It appears to be sheer extravagance to design office floors for a superload of more than 50 lb. per sq. ft.; to meet the case of concentrated loads, such as safes, it should be specified that every floor beam of an office building should be designed for a central load of 3,000 lb. (not, of course, in addition to the superload).

The loads in any ordinary dwelling-house are much below those specified; 40 lb. per sq. ft. for the ground floor and 30 lb. per sq. ft. for upper floors are quite enough.

In this connection we will mention the question of weights of crowds; the record weight obtained by packing 67 picked Harvard engineering students into 64 sq. ft. is 160 lb. per sq. ft.; this broke Stoney's Irish labourer record of 147 lb. per sq. ft., which held the field for many years. We must not be led away too much by these figures for practical design; nobody would consent in the ordinary way to crowding to half this extent for fun, and even that extent of loading would be so unlikely to occur in a domestic building that it should be taken in as part of the factor of safety of 4 for which we design.

Hotels have slightly heavier traffic than ordinary houses, but nothing like the amounts specified; Mr. Fleming recommends 80 for the first and ground floor and 40 for other floors. The loads called for in schoolrooms are absurd; it is difficult to see how a crowd of children in a classroom can weigh as much as 50 lb. per sq. ft., let alone 112 lb.; 50 lb. is ample for design.

For theatres and churches 75 lb. per sq. ft. is sufficient, the figure being increased to 100 lb. per sq. ft. for assembly rooms where the seats are not fixed.

Many people are nervous in designing ball-rooms on account of the vibration, and think that 100 lb. per sq. ft. is too low. We know that London dancing rooms are uncomfortably crowded and that some people can be very heavy on their feet, but, allowing for the fact that the whole area of the floor is assumed to be covered, and that the dancers are willing to be so crowded that each couple has only one square yard of space, then, taking the weight of a couple as 300 lb., this only amounts to 33 lb. per sq. ft. Even if we multiply by three to allow for the effect of vibration we are still within the limit which we suggest for the design load. The student will find it interesting to estimate the total load on a ball-room floor under normal conditions of crowding; if it exceeds 20 lb. per sq. ft. we shall be surprised.

The minimum figure of 224 lb. per sq. ft. for warehouses is too small, as the load to be carried must depend on the merchandise to be stored. For light goods we think that the figure should come down to 120 lb. per sq. ft.

To deal with the difficulty that a warehouse building designed for one class of goods may be used later for another class, we would make it incumbent upon the owners to display in a conspicuous position the load for which floors are designed, and would make it an offence to exceed such load.

The Schneider Specifications.

Mr. Schneider proposed a specification for floor loadings which provides for considerable reduction in floor loads compared with British practice, and yet deals with the possibility of concentration of loads over small areas, and this seems to us to be the most rational method of procedure. The following figures are given in the Schneider specification:—

Schneider's Specification for Floor Loads.

	Distributed per sq. ft.	Concentrated.	Per ft. length of Girder.
Dwellings, hotels, hospitals, &c.	40 ..	2,000 ..	500
Offices (ground floor)	80 ..	5,000 ..	1,000
„ (upper floors)	50 ..	5,000 ..	1,000
School rooms, theatre galleries, churches ..	60 ..	5,000 ..	1,000
Assembly rooms, main floors of theatres, ball rooms ..	Floors 100 / Columns 50 ..	5,000 ..	1,000
Light workshops, stores, &c.	80 ..	8,000 ..	1,000
Sidewalks in front of buildings	300 ..	10,000 ..	1,000
Warehouses and factories	120 up ..	Special ..	Special

All figures are in pounds.

Example of Calculation of Loads and Reaction on Floor Beams.

As a numerical example of the methods in which the loads and reactions are calculated, we will take the portion of the floor framing of a building illustrated in Fig. 16; at a later stage we propose to continue this same example in order to work out the sizes and details of the beams and columns.

A, B —— H represent the columns by which the loads on the floors are transmitted to the foundations. The word "column" is used by most scientific engineers, although the word "stancheon" is favoured among the people in structural-steel trade; the word "pillar" is used by the London County Council in their Steel Frame Act, presumably on the delightful idea among the authorities that they would settle the confusion arising from the use of two words by introducing a third.

The floor will be assumed to be a concrete floor 5½ in. thick which spans in the direction indicated by the double-headed arrows.

The framing has been given the particular form shown in order to provide the opening indicated; for this purpose this opening is "trimmed" by the provision of a beam 8, which transmits its reactions on to beams 9, 10, which in turn transmit their reactions to beams 1, 6 and 2, 7.

The centre portion of the floor is carried by beams 3, 4, 5 which transmit their reactions to beams 9, 10 and columns D. E.

The first estimate, the load per sq. ft. for which the floor has to be designed, it being

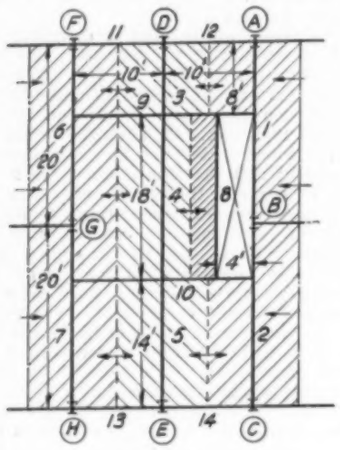


FIG. 16.

assumed that the live load is to be taken at 100 lb. per sq. ft.

We then have:

5½ in. Concrete ..	=	66
½ in. Granolithic	=	6
½ in. Plaster ..	=	6
Total dead load		78
Live load ..		100
Design load ..		178 lb. per sq. ft.

The light shading indicates the area of floor that comes on to the various beams.

We then calculate these as follows:

Beam 3. Width of floor carried = 10 ft.

$$\therefore \text{Load in tons} = \frac{10 \times 8 \times 178}{2240}$$

$= W_3 = 6.4$ tons (uniformly distributed).

$$\text{Each reaction} = \frac{6.4}{2} = 3.2 \text{ tons.}$$

Beam 4.—Width of floor carried = 8 ft.

$$\therefore \text{Load in tons} = \frac{18 \times 8 \times 178}{2240}$$

$= W_4 = 11.4$ tons.

$$\text{Each reaction} = \frac{11.4}{2} = 5.7 \text{ tons.}$$

Beam 5.—Width of floor carried = 10 ft.

$$\therefore \text{Load in tons} = \frac{10 \times 178 \times 14}{2240} = 11.1$$

Each reaction = 5.5 tons.

Beam 8.—Width of floor carried = 3 ft.

$$\text{Load in tons} = \therefore \frac{3 \times 178 \times 18}{2240} = 4.3$$

Each reaction = 2.1 tons.

Now take beams 9 and 10. Beam 9 has a load W_1 at the centre which is equal to the sum of the reactions from the beams 3 and 4 and also has a load W_2 equal to the reaction from the beam 8. From the above figures we have:

$W_1 = 3.2 + 5.7 = 8.9$ tons.

$W_2 = 2.1$ tons.

Fig. 17 shows the loads on the beam 9.

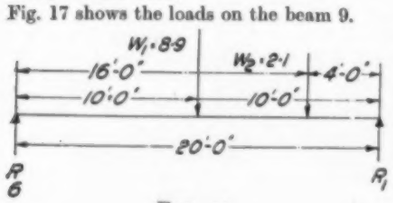


FIG. 17.

We have now to find the reactions R_1, R_6, at the points 1 and 6.

To find R_6 take moments about the point 1:

Moment of W_2	=	$2.1 \times 4 = 8.4$
W_1	=	$8.9 \times 10 = 89.0$
Total moment		97.4

This must be equal to the moment of R_6, about 1, i.e., $R_6 \times 20$.

$$R_6 \times 20 = 97.4$$

$$R_6 = \frac{9714}{20} = 4.9 \text{ tons}$$

Total weight $= W_1 + W_2 = 11.0$

$R_1 = 11.0 - 4.9 = 6.1$ tons

Working in a similar manner for the beam 10 we should get:

$R_7 = 6.0$ tons

$R_2 = 7.3$ tons

The reader is recommended to test this as an exercise.

We will now find the loads and reactions on one of the main beams, such as C.

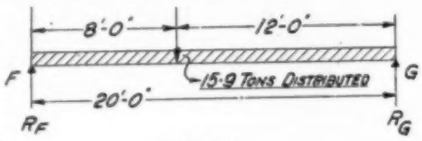


FIG. 18.

It has a point load of 4.9 (the reaction from beam 9) and a uniformly distributed load from the floor slab. This uniformly distributed load

$$= W = \frac{10 \times 20 \times 178}{2240} = 15.9 \text{ tons}$$

Taking this as acting as the centre of the beam, we take moments about the point F with the following results:

Moment of—

Point load	= 4.9×8	= 39.2
Uniform ,,	= 15.9×10	= 159
Total moment		178.2 ft.-tons

$$RG = \frac{\text{Total Moment}}{20} = 8.9 \text{ tons.}$$

The total load = 4.9 + 15.9 = 20.8 tons.

Reaction at F = 20.8—8.9 = 11.9 tons

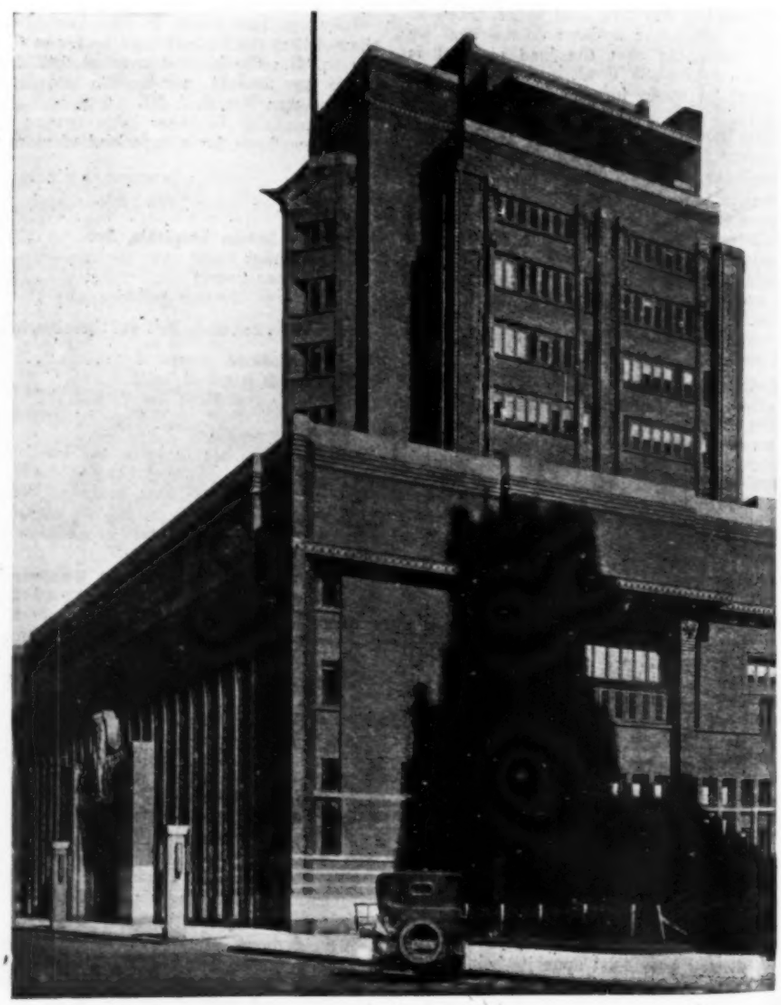
The reactions in the other main beams are found in a similar manner and the loads transmitted to the columns are then determined; as a check on the accuracy of the working we should always see that the sum of all the column loads is equal to the total load on the corresponding portion of the floor.

Ormiston War Memorial.

The Marquis of Linlithgow recently unveiled a war memorial and opened a welfare and memorial institute at Ormiston. In front of the institute is the war memorial, which takes the form of a polished stone shaft with carved capital. The base bears on its front a bronze tablet with the memorial inscription, and a bronze figure representing "The Sacrifice of Youth" surmounts the shaft. The architect was Mr. J. A. Carfrae, Edinburgh.

Steel Houses.

The Sub-Committee on Sites and Houses of Glasgow Corporation Housing Committee recently decided to authorise the Director of Housing to have 10 steel houses of the kind proposed in the offer of Lord Weir erected as an experiment on ground belonging to the department at Drumoyne. The sub-committee also agreed to erect on the ground set apart for experimental purposes at Drumoyne a building in timber consisting of a block of four houses.



Woodbury County Court House: General View. (*See p.* 472).

MR. WILLIAM L. STEELE, Architect; MESSRS. PURCELL & ELMSLIE, Associated Architects.

BOOK REVIEW

The Eighteenth Century Architecture of Bristol. By C. W. F. DENING, F.R.I.B.A., R.W.A., R.B.E. (Bristol: J. W. Arrowsmith, Ltd., Quay-street. London: J. W. Arrowsmith, Ltd. Price £2 12s. 6d.

Seventy beautiful plates and the judgment of a sound critic freely and forcibly expressed would have made an interesting book, even had the examples of architecture under examination been of a less admirable character, and Bristol abounds with fine buildings of that delightful order where civic fitness and the convenience of the individual are inextricably merged together. Sir Lawrence Weaver contributes a preface in which the names of various historical designers are mentioned. Bristol architecture is associated with some well-known men, Sir John Vanbrugh himself having built a Palladian front at King's Weston House, which sufficiently maintains his reputation as a designer with a heavy hand.

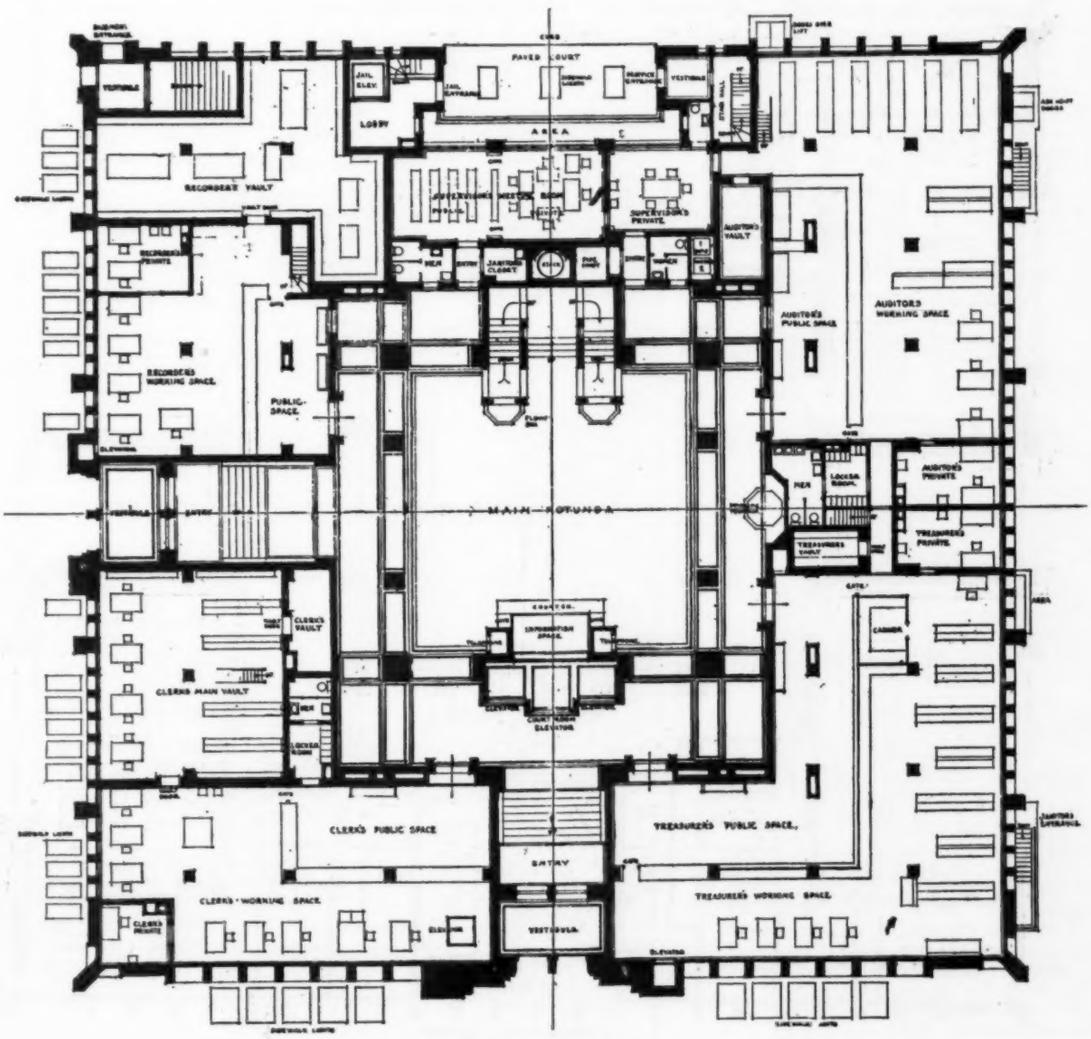
The introduction by Mr. J. E. Barton discusses the spiritual status of these orderly works of the eighteenth century, which was, he writes, "a period of equilibrium between the old romantic spirit that had passed away with the Stuarts, and the new imaginative life that was to follow the French Revolution. Peaks and abysses of emotion—the mysticism of great visionaries or poets—were outside its experience and its art.

"It could not have produced a Shakespeare nor a Shelley. The fastidiousness of Addison, the wit of Pope, the ease of Goldsmith, and the common sense of Johnson are typical of its mental quality and range. Eighteenth-century work as a whole, in all its degrees from honest competence to exquisite mastery, is marked by consistent care and thoroughness. Clear principle and solid practice marched together; and where the practice fell short, a recognised standard of criticism was always at hand to detect the flaw."

The absence of such instructed criticism at the present time, and, indeed, of any real popular interest in architecture at all, is deplored by Mr. Dening, who sets himself to stir up interest in his opening chapters on the study of architecture and craftsmanship. How far a brief resumé of architectural evolution can achieve this end is rather doubtful. Can it be useful to inform the reader that "a glance at the plans of Egyptian and Grecian temples will reveal the contradistinction between the two"—and omit to print the plans? Or to repeat the old familiar statements about the darkness and awe of Egyptian buildings with their "austere and forbidding aspect," when we know that their simple expanses of wall surface were but the basis for the gayest imaginable colour decorations, and that in the intense sunlight and under the vast equalising sky of Egypt even the heaviest structures are apt to appear dwarfed, and, in contrast with the limitless horizon, insignificant? The "austerity" of Egyptian art may be apparent in the dim light of the British Museum or in the crudely exaggerated shadows of an ill-developed photograph, but it is by no means noticeable on the spot.

It is a far cry from Beni-Hassan to Bristol, and in spite of several sage remarks contained in the first two chapters it is a pleasure to pass on to the excellent subject-matter in the later pages, where admirable art is matched with pointed and pertinent comment. The desirability of a central feature in the side of St. James's-square, and the absurdity of a sham feature with a pediment shared in equal halves between two different owners who each paint "their own portions their own particular colour" is very properly emphasised in text and illustration. The value of well-proportioned panes of glass, and the damage done to a dignified front by the removal of sash bars, is pointed out on more than one occasion, and it is to be hoped that the mania for dark expanses of plate-glass may be mitigated by these timely warnings. "Outside the profession," writes Mr. Dening, "it is not generally recognised how much of the effect relies upon the proper proportion of a pane. It is the unit that controls the design of the window opening, and from Sir Christopher Wren downwards it has received considerable attention."

The beauty of old crown glass with the exquisite iridescence in its rippled surface is shown in many of the illustrations, and the recent revival of the eighteenth-century manner without the brilliant colouring picked out upon the glass can never be quite so satisfactory in appearance. A comparison of the Bristol Exchange in its present state with the sash bars



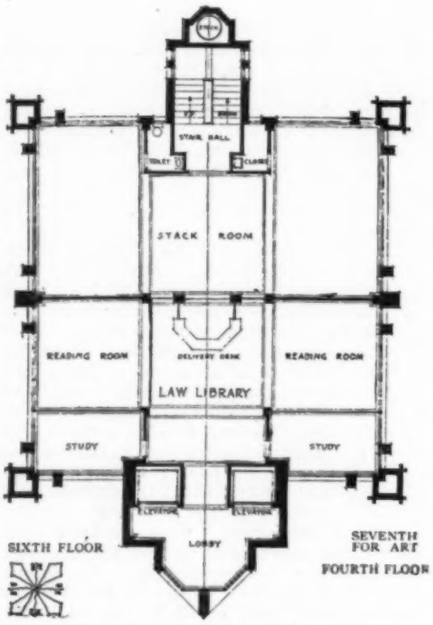
Woodbury County Court House: Ground Floor Plan.

MR. WILLIAM L. STEELE, Architect; MESSRS. PURCELL & ELMSLIE, Associated Architects. (*See p.* 472.)

cut out and the old glass replaced with large gloomy slabs of new, with the façade of the Royal Fort, where both bars and old glass remain, should convince any reader of the superiority of the older way.

Some fine staircases with bracketed treads and twist-turned balusters are detailed and described, and the characteristic Bristol bracketed and niche headed entrance doors appear on several of the plates. A magnificent mantelpiece attributed to Grinling Gibbons is illustrated in Plate XXIII. The ornament, which has the lightness and buoyancy of Gibbons' work in limewood, is actually carved in solid blocks of oak. Other elaborate wood carvings are shown in connection with the Bristol churches where some sumptuous panelled reredoses have been preserved. Some of these have their central panel occupied by pairs of tablets inscribed with the Commandments. Mr. Dening remarks: "It is strange that this treatment occurs in each instance. The object of a central feature—the focal point of a design—has been defeated by introducing this central division." Historical reference to the stone tablets of Sinai seems to have been allowed to take precedence over considerations of design.

A chapter on metalwork is illustrated with photographs of some beautiful wrought-iron gates; a sword-rest and some area-railings of very charming quality and other examples are referred to in the earlier parts of the book.



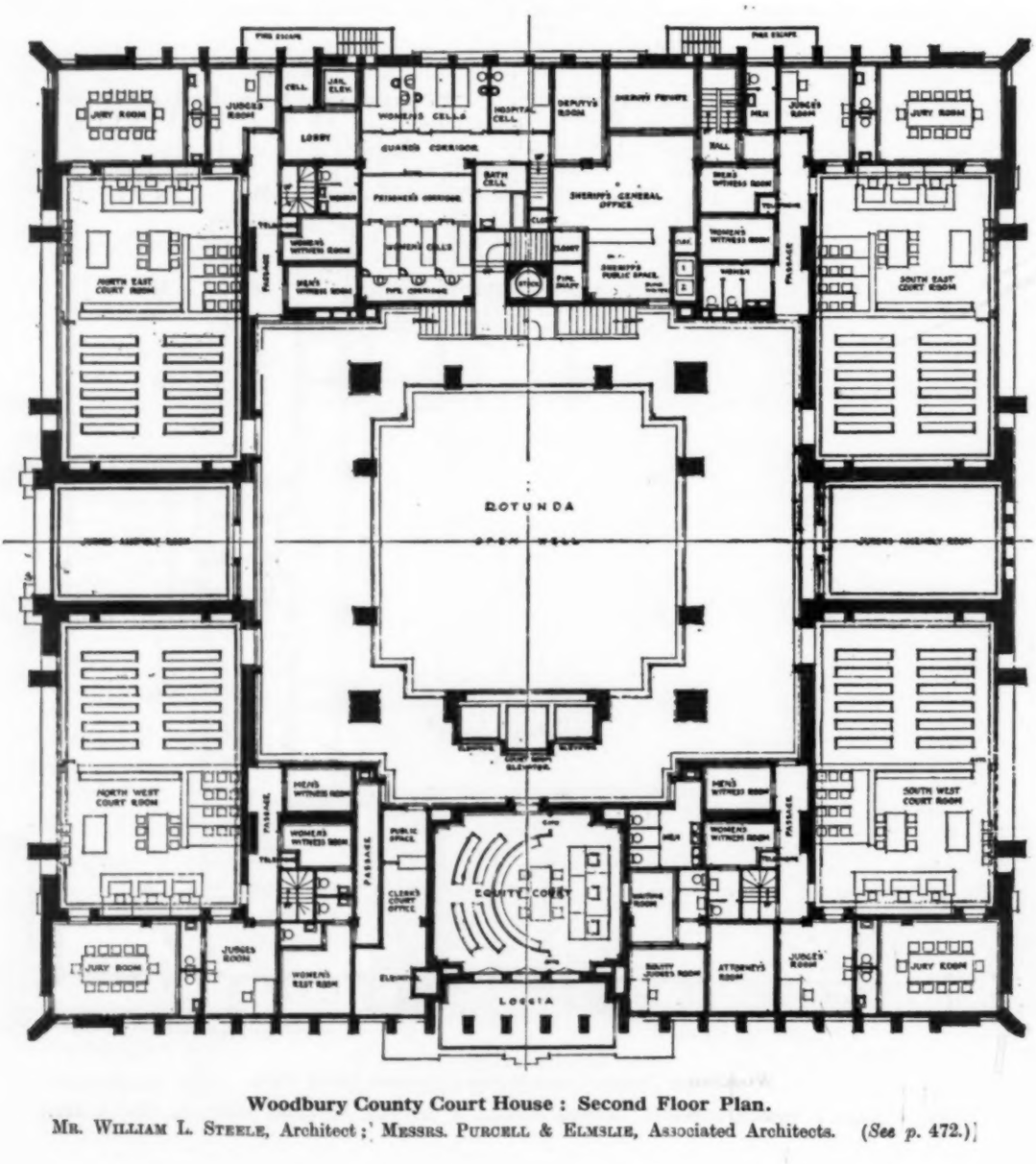
Woodbury County Court House: Sixth Floor Plan.

Plaster work is also illustrated, but the specimens, though refined, happen to be somewhat feeble in design. Better examples are shown on former pages of the work devoted to the description of modelled overdoors.

A chapter upon the Greek revival is included without illustrations, and includes a curious verbal slip by which Pugin and the Gothic Revivalists are credited with having existed in the eighteenth century in place of the nineteenth. A glossary of terms appears at the end of the book, the general character of which is extremely useful and full of information of a most practical order.

Institution of Heating and Ventilating Engineers.

A competition was arranged by the Institution of Heating and Ventilating Engineers early in the year to encourage education in the industry. The result has now been issued by the Council of the Institution. The "Lumby" Premium, £10 10s., presented by Messrs. Lumby's, Ltd., of Halifax, was secured by Mr. V. Nekrassoff, of Philadelphia, U.S.A. The "Sirocco" Premium, £10 10s., presented by Messrs. Davidson & Co., Ltd., Belfast, was awarded to Mr. Victor Matthews, of Bristol, and the "Preston" Premium, £5 5s., presented by Mr. J. R. Preston, of Messrs. Mumford, Bailey & Preston, Ltd., London, was awarded to Mr. H. A. Stirzaker, of London.



Woodbury County Court House: Second Floor Plan.

MR. WILLIAM L. STEELE, Architect; MESSRS. PURCELL & ELMSLIE, Associated Architects. (*See p.* 472.)

ARCHITECTS' AND BUILDERS' INQUIRY BUREAU

*** We are glad to give questions and answers but cannot accept responsibility for contributed replies, especially on legal matters.*

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or better still, in typescript?—ED.

Preparation of Designs.

SIR,—I should be glad to know if, on receipt of a client's instructions to prepare designs, it is part of the ordinary duties of an architect to discover whether there is a town-planning scheme, and if so, whether and how this affects the client's instructions?

C. R. MILLINGTON.

Cement Wash.

[REPLY TO "G.O.M."]

SIR,—If the wash is merely required for decorating, why not use cement coloured distemper, outside quality?

If it is required for waterproofing purposes, mix with a good waterproofing preparation in the proportions recommended by the makers of the brand chosen.

"COLOUR."

Brick-Making Plant.

SIR,—Can any of your readers refer me to any reliable source of information as to why sand-lime brick-making plants have not been extensively adopted in this country? Is there any doubt as to the lasting qualities of the bricks?

"QUERIST."

[In our opinion, the reason why they are not more extensively used in this country lies in the fact that there is such an abundance of brick-earth available.]

Laying Bricks.

SIR,—Re my suggestion of laying bricks on edge with a 3 in. cavity in constructing a 9 in. wall, I should like to thank your readers who have expressed their valuable views. I do not wish to waste space by showing in detail how floor loads, &c., can effectively be distributed on the two wall thicknesses, as this belongs to the elementary, almost traditional, knowledge of hollow wall construction; but there seems no doubt that the proposed method is sound; and as it is done already in other countries, I see no reason why we should not adopt it, especially if it means a great saving in labour and materials.

London. V. J. WENNING.

Mortar Pans.

[REPLY TO "HAMPSHIRE."]

SIR,—I believe some such mortar mill, as described by your correspondent, is supplied by the Engineers' Supply Co., of Shipley, Bradford.

"OBSERVER."

Efflorescence on Brickwork.

[REPLY TO MR. RICHARDSON.]

SIR,—Is Mr. Richardson quite correct in calling the trouble "efflorescence"? The moisture that works through in the walls of his house is doubtless from without, and due to the mortar having been killed by the frost before having set. The cure is to seal the outer surface of the walls, which will then dry out in a short time. If the change from the good to the bad occurs at a convenient place, such as not far below the ground floor window cills, it might be the most effective way if the defective portion and a foot or so above were rendered over with a waterproofed cement, in the form of a plinth. Alternatively it might answer the purpose if the joints of the defective portion were raked out and carefully re-pointed in cement, and the wall surface washed over with a colourless waterproofing solution of good make and mixed strong. If the trouble were really efflorescence, and due to the presence in quantity of salt in the body of the wall, either in the bricks or the mortar, (as occurs when sea sand or "below bridge" Thames sand is used), then the remedy is to seal the inner face of the wall, for it is practically impossible to eradicate the salt, and it but remains to keep it in its place.

"INCRUSTATION."

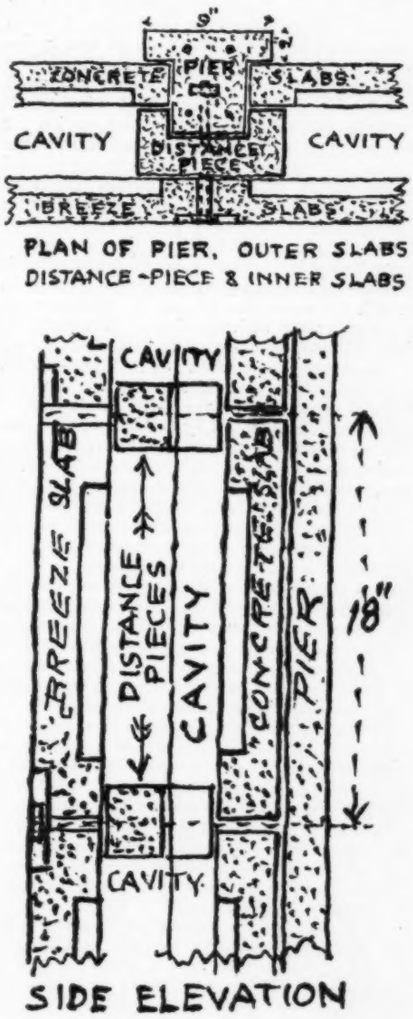
Cavity Walls and Laying of Bricks.

[REPLY TO "TRADITION."]

SIR,—With reference to *The Builder* of the 19th instant, referring to cavity walls, the concrete slab system I had in mind also has a cavity, both horizontally and vertically, except for the 3 in. by 2½ in. distance-pieces of super cement (damp-proof), which are secured to the reinforced super cement piers at 18 in. centres.

A house of this description was built at Shoeburyness in 1920 by the War Department, within 1,000 yards of the firing range of the 15 in. guns, and although the concussion caused by the firing of the very heavy guns is enormous, and the house situated in a very exposed position, it is still as good as the day it was built, and absolutely bone dry. It would require a very good brick house to stand the above conditions.

W. F. KENNELLY.



(See Letter by W. F. Kennelly.)

Concrete Blocks.

[REPLY TO "SURVEYORS."]

SIR,—I think it is generally admitted that, unless concrete blocks are actually cast on the site, there is no saving over the cost of brickwork in walling for small housing work; in fact, rather the reverse, if really satisfactory concrete is used.

There are so many interruptions in the way of quoins, window and door jambs, and breaks and returns in a small house, that the small easily handled brick, easily cut and snapped to shape to meet individual eventualities, is bound to hold its own over all comers. For large uninterrupted stretches of walling it is another matter, but where there is a large proportion of special made blocks, the concrete block does not really get a look in.

"CONVINCED."

Right of Light.

[REPLY TO "SURVEYOR."]

SIR,—"Light and Air," by Sir Banister F. Fletcher, is a very comprehensive work, in which I feel sure your correspondent will find all the information he may require on this subject.

His question covers much too wide a field to deal with in the limits of a short letter.

"AUTHORITY."

SIR,—There does not appear to be any recognised method of valuing loss of light coming to the dominant tenement; nor do the standard works on the Law of Light suggest definite working rules that may be used to ascertain the value of the injury. When valuing the injury it should be borne in mind (1) that the dominant tenement is only entitled to such an amount of light as is necessary, according to the ordinary requirements of mankind, for the use and enjoyment of the house as a dwelling-house, if it be a dwelling-house, or for the beneficial use and occupation of the building if it be a warehouse, shop, or other place of business; (2) that there is no fixed test as to amount of light to which a dominant owner is entitled, and that to interfere must amount to a nuisance; (3) that the Court will not necessarily allow a defendant to pay damages for his wrongful interference with the plaintiff's light, since it will not allow a wrong to continue simply because the wrong-doer is able and willing to pay for the injury he may inflict; (4) that, however, when the injury is small, and is capable of being estimated in money and is one in which it would be oppressive to grant an injunction, then damages in substitution for an injunction may be given.

The questioner, applying the ordinary rules of valuing property to arrive at the value of the injury, should consider: (*a*) does the obstruction lessen the letting or selling value of the property; (*b*) is the convenience or comfort or business of the dominant owner interfered with, and, if so, to what extent they be remedied and cost of such remedy?

Combe's "Law of Light," and Banister Fletcher's "Light and Air" might be consulted.

C. T. W.

External Oak.

[REPLY TO "F.S.A."]

SIR,—I do not know of any transparent and colourless preservative for oak, but I do know that English oak is probably the most durable building material we have, excepting granite and some similar stones, and I should not personally hesitate to use it, even in London, without any preparation whatever. The timber, if in large scantlings, will crack, and quite large fissures will occur; but there is no danger to be feared. There is many an old oak tree standing to-day, cracked from top to bottom, but quite healthy after many centuries.

"NATURE."

THE BUILDING TRADE

WORKMEN'S COMPENSATION

CASE UNDER THE NEW ACT

AN important decision has been given by the Court of Appeal in the case Davies *v.* Gwauncaegurwen Colliery Company, Ltd. (*The Times*, July 24), on the new Workmen's Compensation Act, 1923, section 7, which provides "For the purposes of the principal Act an accident resulting in the death, or serious and permanent disablement, of the workman shall be deemed to arise out of, and in the course of, the employment, notwithstanding that the workman was at the time when the accident happened acting in contravention of any statutory or other regulation applicable to his employment, or of any orders given by, or on behalf of, his employer, or that he was acting without instructions from his employer, if such act was done by the workman for the purposes of, and in connection with, the employer's trade or business."

The applicant in the case was the widow of a man who acted as a screensman in the Mardy Colliery, and whose employment it was to work on the front part of screens for loading railway wagons. The rear part of the screens had been disused for some ten years. There were two cabins provided for the men to hang up their coats and to leave their food in, and there was no necessity for any of the men to go to the rear of the screens, but this man, who was an old servant of the company, had made it his practice to go into the disused part behind the screens, hang up his coat there, and later to eat his food there. This practice of his was known to the officials, but he was the only workman who did it. A few days before the accident a barrier of railings was put up to prevent any man from going into the disused part behind the screens, as it was considered dangerous, but the man must have continued to do so, although he had been warned not to do so by the carpenter who had put up the barriers, for, on February 13, having arrived at the pit before daylight, he was found down a hole 19 ft. deep in the disused part, and he subsequently died of the injuries he had received. The County Court Judge in these circumstances had held that the accident did not arise out of and in the course of his employment.

The Court of Appeal affirmed this judgment, and considered the effect of this new section. The court observed that the section was not very happily worded, but it was important to note that it introduced a new phrase, "the employer's trade or business," and the act done by the workman when he met with injury by accident must fulfil both limbs of the last sentence in the section, that is to say, unless the act was done for the purposes of, and in connection with, the employer's trade or business, it was not an act arising out of the employment. This principle was not satisfied in this case, for the workman was acting entirely for his own purposes in entering the disused portion behind the screens.

It may be noted that the Master of the Rolls, while saying that it was doubtful whether it would be wise at this early stage to apply any particular construction to the section, did give some intimation as to its probable intention. He is reported as having said the section was probably intended to apply to such a case as Bourton *v.* Beauchamp (1920, A.C. 1,001; *The Builder*, June 25, 1920); but it was more doubtful whether the section applied to such a case as Lancashire and Yorkshire Railway *v.* Highley (1917, A.C. 352; *The Builder*, April 6, 1917), although in the notes to Chitty's "Statutes" it was suggested it did so apply.

In the first of these two cases a man employed to attend the cages at the bottom of a mining shaft, in contravention of a regulation made under the Coal Mines Act, while the cages were working, crossed the shaft bottom and noticing that a sumph board was loose, stopped to knock it into place, which it was part of his duty to do when the cages were not working, but he himself had signalled for the cage to descend. Under the old Act, the House of Lords held the accident not to have arisen "out of and in the course of the man's employment, as this man had acted contrary to a statutory order; but under the new Act, the act done by the workmen would be one done by the workman "for the purposes of and in connection with his employer's trade or business." We pointed this out in our article of December 28, 1923, when the Bill first became law.

In the second case a workman in the employ of the railway company had been ordered to go to Goole, and whilst on transit he had to wait half an hour at Wakefield station, and whilst there crossed the line to get some hot water to make tea for breakfast, and was killed by a train. This was held by the House of Lords not to be an accident arising out of and in the course of the employment, as the man had taken an additional and unnecessary risk upon himself. It would appear that the result would be the same under this new section for the man in crossing the line, instead of using the bridge, was not acting, for the purposes of, and in connection with, his employers' trade or business, but taking a short cut for his own convenience.

Broadly speaking, therefore, the new section seems to apply to those cases where the Act is confined to furthering the employers' interests, though in contravention of a statutory, or other order, or without directions, but as we showed in our recent note on St. Helen's Colliery *v.* Hewitson (1924 A.C. 59; *The Builder*, April 25, 1924) where the meaning of the words "out of and in the course of the employment" was discussed at length by the House, the same sort of questions may arise under the new section as have arisen under the old Act where men, though not actively engaged in work, are still acting within the scope of their employment. Lord Atkinson gave examples of this such as haymakers going a short distance to get water to drink to enable them to continue their work, workmen taking food on the premises or standing by, for in such cases if a man is acting contrary to orders, or without directions but not for his own purposes, it will still have to be determined whether he was not acting indirectly for the purposes of, or in connection with, his employers' trade or business.

The wording of this new section, however, appears to give rise to another consideration with reference to the Act itself, for it seems a question whether the definition it contains in the last part of it, of the scope of a man's employment, could not be adopted in the Act with advantage in place of the expression "arising out of and in the course of the employment," which has proved so very difficult of interpretation and application.

It is true the Committee which sat in 1920 recommended no change in this expression, as it considered it had been defined by judicial decisions, but since then numerous decisions in the House of Lords have again altered the interpretation to be put on this expression, and have showed the extreme difficulty of suggestion tests for its application.

The Act would then read, "If in any employment personal injury by accident is caused to a workman whilst acting for the purposes, and in connection with, his employer's trade or business . . ." and these words supply a definite test easily determined as a question of fact. As the law stands at present this test is only applied in cases resulting in death, and serious and permanent disablement, and where the man is acting contrary to orders or without direction, whereas in all other cases the meaning of the expression "Out of and in the course of the employment," has to be determined in the light of the many conflicting cases. We think the amendment of the Act by the general adoption of the expression now used in the new section, either by itself or as in the section, in combination with the words "out of and in the course of the employment," would very much simplify the administration of the Act, whilst in no way limiting its scope.

NEW BUILDINGS IN LONDON

Devonshire House Site.—OFFICES AND BANK.—Thirty-one thousand sq. ft. of the middle portion of the Devonshire House site, with a frontage of over 200 ft. to Berkeley-street, have been acquired by Messrs. Thomas Cook & Son, for whom Messrs. Holland & Hannen and Cubitts, Ltd., will, it is stated, immediately commence the erection of a building for their central London offices and bank.

Farringdon-road.—OFFICES.—Messrs. Falk, Stadelmann & Co., Ltd., lamp manufacturers, are having offices erected at Farringdon-road. Messrs. Allen Fairhead, Enfield, are the builders. The architects are Messrs. Fuller, Horsey, Sons & Cassell, of 11, Billiter-square, E.C.3.

Bellingham.—CHURCH.—A contract has been placed for the erection of the new church of St. Dunstan on the L.C.C. Housing Estate at Bellingham, S.E., and building operations are to commence at once. To be built of brick with a slated roof, the new edifice will accommodate about 500 worshippers. It will cost £18,000, practically all of which is in hand. The architect is Sir Charles Nicholson, Bart., of New-square, Lincoln's Inn, the builders being Walden & Son, of Henley-on-Thames.

Victoria.—HOTEL.—Work will commence this winter in connection with the development of an important site in Wilton-road, S.W., opposite Victoria Station. An area about 20,000 sq. ft. in extent, with frontages of 200 ft. to both Wilton-road and Vauxhall Bridge-road, has just changed hands at £250,000. The purchasers intend to erect a large hotel, to be run on inexpensive lines, containing over 400 bedrooms. The building will be of seven or eight stories, and will have ten shops on each street frontage. Each bedroom will possess its own bathroom. Sketch plans are now being prepared by the architect, Mr. Ernest G. W. Souster, F.R.I.B.A., 3, St. James'-street, S.W.1.

Bishopsgate.—BANK.—A large block of old premises in Bishopsgate, E.C., are to be rebuilt in order to accommodate new head offices for Hambros Bank, Ltd. With a frontage of about 100 ft. the new building will contain fire and burglar proof strong rooms in the basement, a large banking hall on the ground floor, and five floors of offices above. Steel-framed construction will be carried out, with fireproof floors, and a frontage of Portland stone. The architects are Messrs. Niven & Wigglesworth, of John-street, Bedford-row. Messrs. Trollope & Colls, 5, Coleman-street, E.C., are the contractors for the foundations.

Barrhill Memorial Hall.

Erected at a cost of £3,500 Barrhill District War Memorial Hall was recently opened by Captain D. Euan Wallace, of Kildonan. The hall accommodates 300 people, and was carried out from the design of Mr. James Miller, A.R.S.A.

Blackpool Promenade.

Estimates for the extension of Blackpool's promenade amount to £463,000. The town will then have spent £1,250,000 on the promenade, which will be five miles long.

REINFORCED CONCRETE AND ITS RELATION TO CONSTRUCTIONAL STEEL

In the course of a recent lecture before the students of the Institution of Civil Engineers, Mr. W. Whitridge Davies, B.Sc., A.C.G.I., said the value of a building material depended upon the extent to which it possessed certain qualities, the most important of which were: (1) Strength, (2) resistance to fire, (3) resistance to corrosion, (4) resistance to wear, (5) facility in design, (6) facility in construction, (7) æsthetic possibilities.

Reinforced concrete was a good fire-resisting material for two reasons: first, because the conductivity of concrete was low, and therefore heat travelled slowly from one part to another; second, because the coefficients of expansion of steel and concrete were approximately the same, so that no internal stresses were set up due to unequal expansion. The effect of heat on concrete was to cause it to disintegrate and "spall," but owing to its low conductivity this action was generally confined to a small surface layer. Unprotected steel, if attacked by fire, was the most unreliable and treacherous material used in building construction; owing to its relatively high conductivity the effect of heat spread rapidly over a structure, with disastrous results to its stability. Steelwork could only be made effectively fireproof by being coated with terra-cotta or concrete or some other non-conducting substance, which added considerably to the dead weight without increasing the strength of a member. In this way it compared unfavourably with reinforced concrete, for in the case of the latter the concrete acted in a double rôle, both protecting the steel and playing an essential structural part.

Concrete, like stone and brick, was a chemically inert substance, and therefore suffered very little from corrosive action. It was unaffected by water. Some acids affected it, but in most cases the reaction was not only very slow, but resulted in the formation of a protective coating which prevented further attack. With a good hard, dense concrete there was little chance of corrosion occurring. Steel, on the other hand, was much more chemically active, and therefore more subject to corrosion. Its failing in this respect was too well known to need description; suffice to say that the discovery of a cheaper and stronger form of rustless steel would be of the greatest value, and undoubtedly would have the effect of lessening the importance of reinforced concrete as a building material, for resistance to corrosion was the most valuable property of the latter.

When the question of resistance to wear is considered it was found that the position of the two materials is reversed; steel was able to withstand the heaviest wear to which a structure is liable, whereas concrete was not nearly so resistant. The greatest cause of deterioration in concrete was the occurrence of cracks in the presence of water. Cracks in themselves were of no consequence if water was not present, but the presence of the two together almost inevitably resulted in disintegration. These cracks might be caused in four different ways: by shrinkage during the setting of the concrete, by expansion and contraction due to changes of temperature, by the same due to alternate wetting and drying, or by the presence of excessive tensile stresses. At first they were only fine hair-cracks, but as soon as water was allowed to enter and expand—either by freezing or by crystallisation—the interstices became wider and allowed the entrance of further water. Thus the action was accumulative, and might result finally in the falling away of large portions of the work. No entirely satisfactory remedy had yet been devised for this ill, but it could be reduced to a minimum by avoiding sudden changes of section, and where large flat areas occurred by providing a light mesh reinforcement to take up the shrinkage stresses.

Facility in design involved two main considerations: the accuracy with which the stresses due to a given condition of loading could be determined; and the economy with which these stresses could be resisted. With regard to the first consideration, owing to the monolithic nature of reinforced concrete the computation of stresses was a somewhat involved process. In steelwork design no continuity was assumed to exist between member and member, and although that implied a loss of economy it also meant that the stresses in each member could be calculated with greater accuracy and therefore that the factor of safety might be proportionately smaller. Given, however, a certain stress to be resisted it was possible in the case of reinforced concrete to adjust the size and strength of the member to suit the exact requirements, thereby securing the maximum economy. Constructional steel, on the other hand, being rolled in a limited number of shapes and sizes, could not always be designed so near the required strength. This might at first sight seem to be a trivial inconvenience, but that it was really of some importance was shown by the recent introduction of new British Standard sections with a view to filling some of the gaps in the old table.

There were many factors which determined the suitability of a material for construction purposes, but the more important ones were: ease in handling; accuracy of workmanship; skilled labour required; and speed of erection.

In these days of expensive labour the ease with which a material could be handled was a very important consideration. In this respect reinforced concrete did not compare favourably with steelwork, for besides being heavier it could not so easily be handled by mechanical means. Steelwork units were lighter, involved only one material, and could be easily manipulated by means of a crane; they could also be assembled in the shops and stored there until required for erection, thus avoiding unnecessary transportation. Up-to-date methods in concrete construction employed mechanical mixers, metal formwork, and chutes for distributing the concrete to the forms, but even with these improvements a large amount of labour was required which was unnecessary in steel construction.

It had often been asserted that a large proportion of unskilled labour could be utilised in reinforced concrete work, but the truth was that good work could only be performed by men with the necessary knowledge and skill. But although skill was certainly required the training of men to the necessary degree of aptitude was not a difficult task. In this respect it compared favourably with steelwork construction which, from the very nature of the material, involved the employment of a specialist firm.

Architectural effect was controlled mainly by three elements: colour, texture and form, and it was through these that a structure must appeal to the eye. Reinforced concrete, if properly employed, was capable of æsthetic treatment in all three respects. Its colour was normally that of natural stone, but could be altered at will by introducing permanent pigments during mixing or by using naturally-coloured aggregates. In texture, too, it was similar to masonry, but, as with colour, it was capable of infinite variations; a number of different means were employed for obtaining the required texture, from rubbing with carborundum for fine effects to bush-hammering for coarse effects. Concrete could also, within reason, be moulded to any desired shape, and although a limit was imposed in such treatment by the difficulty of constructing the formwork, it was far easier to obtain æsthetic effect with concrete than with constructional steel. Steelwork had no colour except what was given it by paint, and that soon dulled and tarnished; its texture was smooth and uniform and could not be altered by surface treatment; it could not be moulded, but must rely for its effect upon the use of standard sections, which might be structurally efficient, but were certainly not beautiful.

The chief advantages of reinforced concrete compared with constructional steel were its resistance to fire, resistance to corrosion, and æsthetic possibilities; while the advantages of steel were its lightness and its facility in construction.

All commercial buildings of any size were now constructed as frame buildings; in essence they consisted of a steel or reinforced concrete framework composed of beams and columns, and floors and wall panels which rested upon this frame.

The main strength of a reinforced concrete framework lay in its monolithic nature. That ensured rigid connection between beams and columns, and not only resulted in a more even distribution of stresses due to vertical loads but also caused the whole frame to act as if it were diagonally braced when subjected to lateral wind load. A steel framework, being designed with cleat connections, which approximated to pin-joints, and through which no appreciable stress could be transferred from one member to another, was less rigid and therefore in that respect less strong. The rigidity of a concrete framework was not confined to the framework only; the floors, and sometimes the walls, were constructed monolithic with the beams and columns so that the whole structure was knit into one solid, elastic, continuous mass.

Coming to the question of resistance to fire, as all building regulations insisted on the adequate protection of steelwork by some form of concrete or terra-cotta, there was little to choose between the two forms of construction, except on the ground of economy. In the case of reinforced concrete the concrete played an important part in the structural strength of a member, whereas in constructional steel it functioned merely as a protecting material. More notice was now being taken of the fact that the concrete actually did considerably add to the strength of the beam or stanchion it encased; a joist embedded in a concrete floor would safely support a 50 per cent. greater load if the strength of the concrete were taken into account, and in the case of stanchions that increase might be as much as 100 per cent. An interesting example of the efficiency of concrete as a fire-proof material occurred at an hotel in Minneapolis. A fire broke out on the eleventh floor of the building, and attained such a degree of heat that the plaster crumbled and the iron fixings melted. In spite of this the reinforced concrete walls and floor were able to confine the fire so effectively that many of the guests below were unaware of what was occurring.

It was necessary in the case of a steel frame building to use some sort of facing, but reinforced concrete, being a material possessing the appearance of natural stone, should not require a veneer. Many buildings had already been erected in which concrete was the only material used, the concrete being treated architecturally with great success. No doubt, as the surface treatment of concrete was more universally employed and as our general knowledge of the material increased a style of architecture suited to its own particular properties would gradually be evolved, and buildings constructed entirely of reinforced concrete would be much commoner than they were to-day.

Messrs. Bivert & Firth have recently issued a brochure, "Celatexed Roofs," which contains useful information concerning the construction and upkeep of roofs. It deals with the water-proofness, strength, efficiency in practice, availability, and reasonableness of costs of "Celatexed" Roofs, and should, therefore, prove of interest to architects. Copies can be obtained on application from Messrs. Bivert & Firth, Cunard House, 27, Cockspur-street, London, S.W. 1.

NEW INVENTION

New Method of Building.

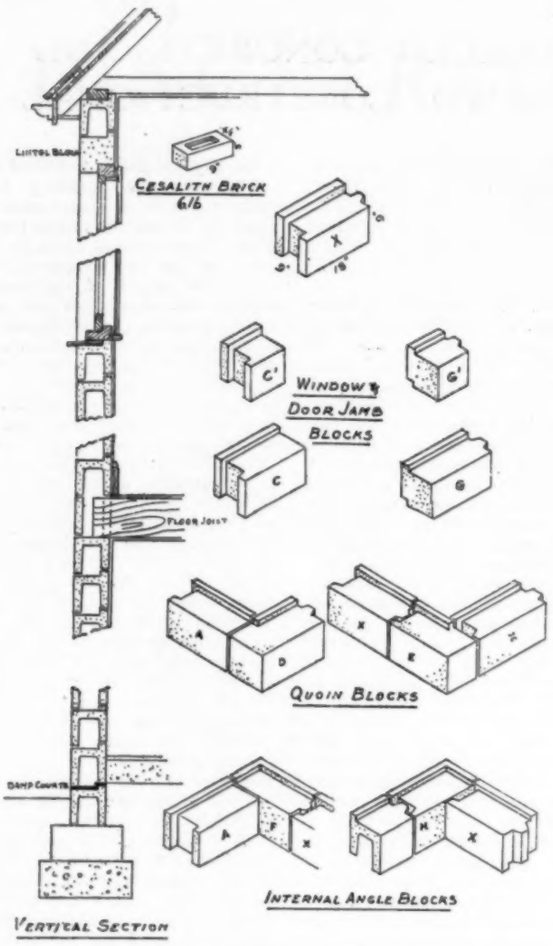
"CESALITH" is the name given to a new system of hollow wall construction about to be put on the market by Mr. Bruce Brown, M.I.Struct.E., of 150, Southampton-row, W.C.1, which is of particular interest on account of the method of manufacture. "Cesalith" is a synthetic sandstone rather than concrete as generally understood. The walling is formed of hollow blocks measuring 18 in. by 9 in. by 9 in., and weighing about 40 lb. each, and are thus easily handled while equal in size to 12 ordinary bricks. As shown in the illustrations, the blocks are of hollow formation, with plain sides, a groove at one end and a tongue at the other, a top piece which is flat on top and shaped to a parabolic arch inside, while the bottom of the block is left open. On one side of the top of each block is a flange, and the blocks are so laid that in each course the position of this flange is reversed; thus, on the bottom course the flange will be on the outside of the wall, while in the next course it will be on the inner surface. By this means, as is shown in the illustration, a continuous longitudinal air space is formed throughout the walling at each block course, which, by keeping the temperature of the outer and inner faces of the wall more equal acts as a preventative against condensation.

It is, however, in the method and materials of manufacture that the chief novelty of the system lies. The mix used is in the proportion of one part Portland cement, eight parts sand, and one part chalk, the absence of coarse material making an excellent surface finish possible, which is enhanced by the fact that the blocks are made in a steel mould. The quantity of water is carefully regulated at the mixer, and a very small amount used, so that when poured into the moulds the concrete resembles sand on the seashore immediately after the tide has gone out. The machine used are of the vibratory type, which is undoubtedly productive of the densest concrete and to be recommended where the use of such consolidating machines is practicable. In this machine, called the "Rototamp," the blocks are vibrated for 15 seconds and then removed on pallets and allowed to cure thereon for 12 hours. After this period the blocks may be handled, and they are then removed from the pallets and cured under water, or sprinkled at frequent intervals for a further period of three days, and at the end of from six to eight days they are ready for use. Any desired colour can, of course, be obtained by mixing pigments with the dry materials before mixing. A waterproofing liquid is incorporated with the mixing water.

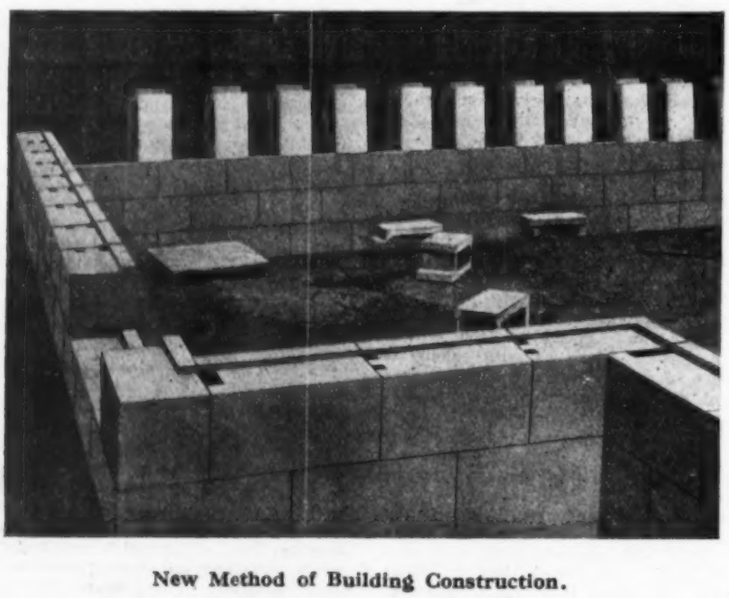
A feature of the vibratory consolidation of the blocks is the fact that a very accurate check can be kept on the density of the concrete, and by increasing or decreasing the length of time during which it is subjected to vibration, as also by varying the proportions of cement and sand, it is possible to produce blocks of extreme density which are perfectly waterproof or porous blocks for use as partition slabs.

The "Cesalith" method of making concrete is also being employed in the manufacture of bricks, and the possibilities of the vibratory method of consolidation referred to above are made use of to produce anything from a soft brick to an engineering brick at will by varying the density of the concrete. These bricks can be economically made wherever suitable sand is available at, we are informed, a competitive price with clay bricks. They are made ten at a time in a "Rototamp" machine, and as only five seconds is necessary to consolidate them it is claimed that it is possible to produce 500 to 600 bricks per hour on a building site, or upwards of 5,000 per day per machine in a factory; a battery of 20 machines would thus be able to turn out 100,000 bricks per day.

We are informed that a house built at Winchmore Hill two years ago with this system of concrete blocks shows no trace whatever of dampness or condensation, even in the bathroom and kitchen. A saving of one-sixth on the total cost of a house is claimed for the "Cesalith" method compared with brick construction.



New Method of Building Construction.



New Method of Building Construction.

Building in Egypt.

£E.201,000 has been allotted for the extension of Suez Harbour, and £E.20,000 for rebuilding the Customs House at Port Said.

Building in Japan.

The Acting Commercial Counsellor at Tokio reports that a Japanese Ministry of the Interior Ordinance was published recently relative to the grant of subsidies for the construction of fireproof buildings in certain zones in Tokio and in Kanagawa Prefectures. It is stated that the public expenditure involved will reach some 20,000,000 yen. A translation of relevant portions of the Ordinance with explanatory notes appended by the Acting Commercial Counsellor indicating the nature of the assistance to be given and the types of buildings affected, may be consulted by United Kingdom firms on application to the Department of Overseas Trade, 35, Old Queen-street, S.W.1. (Reference C.X.1171).

THE SCOTTISH BUILDER

THE GOVERNMENT'S HOUSING SCHEME—THE SCOTTISH CIRCULAR

THE full terms of the Government's housing scheme are set out in a circular which the Scottish Board of Health issued recently to the local authorities in Scotland. The circular generally follows the lines of the recent circular issued by the English Ministry of Health, but there are several modifications in the Scottish scheme. The most important of these are the definition of a "rural area" in Scotland, the decision of the Board to issue model plans, &c., and the severe limitations which the Board put on their permission to build houses smaller than the general standard.

The introduction explains that the primary object of the Act is "to establish continuity in dealing with the housing problem and, by the adoption of a long and continuous programme of building, to ensure such a development of all the resources of the building industry as will guarantee the production of houses on a scale sufficient to overcome the present serious shortage of houses, and to make adequate provision for meeting the growing need and for the replacement of unsatisfactory accommodation." The circular goes on to explain the details of the scheme and the administrative arrangements for carrying it out.

The Subsidy.

The main points are as follows:

Houses which comply with special conditions (mainly of letting and amount of rent), and which are completed before October 1, 1939, will, if provided by a local authority, be eligible for a Government subsidy of £9 a year for forty years; or, if the house is situated in a "rural area," £12 10s. a year for forty years. A subsidy is also payable by the local authorities to private enterprise. The amount of such subsidy, which must take the form of an annual payment for a period not exceeding forty years, is a matter for the determination of each local authority, subject to the approval of the Scottish Board of Health. If the local authority give to private enterprise less than the amount of £9 or £12 10s., as the case may be, the amount of the Exchequer contribution to the local authority will be reduced to the equivalent of the local authority's grant. A "rural area" in Scotland for the purposes of the Act is closely defined. In general terms it may be described as a landward parish (or the landward part of a parish) in which the value of the agricultural land exceeds 25 per cent. of the total valuation of all lands and heritages, and in which the population is less than fifty persons per hundred acres; and any area (other than a burgh) within the Highlands and Islands Medical Service area.

These rates apply to houses built only during the first two years. After October 1, 1926, and every two years thereafter, the contribution for houses built during the next two years may be reduced if the cost of building and other conditions warrant a reduction.

Type of House.

The increased subsidies apply to houses having a superficial area within the following limits:—

Two-storied cottage:—Minimum 620, maximum 950 superficial feet.

One-storied cottage or bungalow, or house in a flat or tenement:—Minimum 550, maximum 880 superficial feet.

There is a provision which empowers the Board to permit smaller houses, having a minimum size of 570 superficial feet for two-storied cottages and 500 superficial feet for one-storied cottages or flats. But the circular states that "before permitting any houses of the smaller dimensions the Board will require to be satisfied that the circumstances of the area are indeed so exceptional as to warrant departure from the general standard, and in no case will the number of smaller houses in any one development be allowed to exceed 25 per cent. of the total number of houses included in that development."

The density of the houses, unless in exceptional circumstances, must not exceed 8 per acre in a "rural area" and 12 per acre elsewhere.

Freedom to the Local Authorities.

The Board propose to leave the details of the schemes, so far as practicable, within the discretion of the local authorities, and save in exceptional circumstances, the local authorities need not submit plans, specifications, &c., tenders or contracts for the Board's approval. The Board's officers, however, are at the disposal of the local authorities for consultation.

The Board's approval normally will be given in two stages, first, general approval to a programme for two years, and second, specific approval to the building of houses which are to be put in hand at once and which are likely to be completed within nine months. The local authority's proposals for provisional approval are to be submitted with a statement setting out, among other things, the shortage of houses in the area, estimates of the number of houses likely to be built by the local authority and by private enterprise, the present labour position in the area, and an undertaking by the local authority that, where they apply, the special conditions will be strictly observed. The main point in the application for specific approval is the local authority's estimates of costs (houses, lands and roads) and the anticipated date of completion of the houses.

Board to Issue Model Plans, &c.

The Board are preparing model plans, specifications, and schedules which embody the numerous economies which the Board have found to be practicable during their experience of the housing schemes of the last five years. These plans, &c., will be put on sale through H.M. Stationery Office.

Rents.

The special conditions which must be observed in order to qualify for the increased subsidy include, among other things, requirements that the houses will be let to tenants who intend to reside in them and that reasonable preference will be given to large families. The rents clause of the special conditions is as follows:—

"That the rents of the houses will not in the aggregate exceed the rents payable if the houses were let at the appropriate normal rents charged in respect of pre-war working-class houses, except in so far as the expenses to be borne by the local rate would exceed the equivalent of £4 10s. a year per house for 40 years, and that no fine, premium or other like sum shall be taken in addition to the rent."

This makes it clear that the local authority can charge a higher rent than the ordinary rent for pre-war working class houses only if the loss to the local authority exceeds £4 10s. per house, which is the amount of the local authority's contribution to be added to the Government contribution of £9 for a house in a non-rural area of £12 10s. in a rural area.

The provisions of the 1923 Housing Act so far as Exchequer contributions are concerned are extended practically unaltered for 15 years, so that local authorities if they do not want to comply with the special conditions may continue to build themselves or assist private enterprise on the basis of the 1923 Act. The Exchequer contribution under that Act is limited to £6 a year for 20 years. A significant modification, however, is that which requires that the fixed bath must be provided in a bathroom.

The 1924 Act generally continues in force and makes permanent the temporary provisions of the Act of 1923, which authorised local authorities to lend money to builders and building societies for houses up to an estimated value of £1,500.

New Building Methods.

There are several references in the circular to new building methods. Perhaps the most important of these is to the power which is conferred on the Board if a local authority refuses without reasonable cause to adopt a new material or method of construction which would reduce the cost of houses without unduly affecting their durability, suitability or appearance, to reduce the amount of the subsidy.

As in the 1923 Act the payment of subsidy to private enterprise is made by the local authorities, but as experience has shown that some local authorities have not adopted proposals for the assistance of private builders, the new Act makes

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters. Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Brick-layers' Labourers.	Plas-terers' Labourers.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/6	1/0½	
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3	
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½	
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½	
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3	
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3	
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-	
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Coatbridge	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½	
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3½	
Dumfries	1/6	—	1/6	1/6	1/6	1/8	1/6	1/3½	
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Dunfermline	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3½	
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½	
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2	
Galashiels	1/5½	1/5½	1/5½	1/6	1/5½	1/5½	1/6	1/1½	
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½	
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½	
Hawick	1/6	1/6	1/6	1/6-1/6½	1/6	1/6	1/6	1/2	
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½	
Inverness	1/5	—	1/4½	1/4	1/5	1/5	1/4	11d. to 1/2	
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½	
Kirkcaldy	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3½	
Kirkwall	1/4½	1/4½	1/3½	1/4	1/4½	1/4	1/3	1/0	
Lanark	1/7½	1/8	1/7½	1/9	1/7	1/7	1/6	1/- to 1/3½	
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Motherwell	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½	
Perth	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Stirling	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3½	
Stirlingshire (Eastern District)	1/8-1/10	1/8-1/10	1/8	1/9	1/7	1/8	1/6½	1/3½	
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 492

provision in such cases whereby subsidy may be paid direct to the builder by the Scottish Board of Health.

The circular is on sale at H.M. Stationery Office, 120, George-street, Edinburgh, price 3d.

DOMESTIC WELFARE EXHIBITION

THE Domestic Welfare Exhibition promoted by the Glasgow Corporation opens in the Kelvin Hall on October 13. The leading features of the Housing and Health Exhibitions will be maintained, and many new attractions added. The Exhibition will run for three weeks. The classification of exhibits includes house furnishing, lighting, heating, and labour saving appliances and house decoration. The latter will comprise cements, plain or coloured, cement colouring and flooring materials of all kinds, including wood, parquetry, tiles and mosaic. Also wall linings, ornamental plaster, wall tiles, marble, glass-patterned, stained or coloured, paints, oils, varnishes, stains, distempers, wall-papers and ceiling coverings of all kinds, and decorative mouldings and cornices.

Arrangements have been made for the erection of a five-apartment cottage of steel construction within the Exhibition. The building will be rigid in construction, and well appointed in every way. There will be a class open to architects' apprentices and others not professional architects for a sketch design for a house, bungalow or villa, in any style. The awards will be made by a board of judges to be appointed by the Glasgow Corporation, who are promoting the exhibition. Schedules and forms of entry can be obtained on application to Mr. Cecil Sommerville, general manager, Kelvin Hall, Glasgow. Entries close on October 9.

HOURS OF LABOUR IN SCOTLAND

THE Scottish Regional Joint Wages Committee met recently in Glasgow and heard a report of a sub-committee who had had remitted to them the question of the working hours. The following is the decision arrived at :—

"That, in view of a national settlement having been reached in connection with wages, &c., on August 22, 1924, the agreement for the working hours week for Scotland be concluded in the following terms, in accordance with the provisions for working hours as contained in the constitution of the National Wages and Conditions Council :—

"'(1) That where the 44 hours week (8 hours per day for the first five days and four for Saturday) was in operation on May 22, 1924, the same shall be maintained, with the proviso that on jobs where no artificial light is reasonably possible, the hours may be reduced by half an hour during the first five days of each week during January and December, thus making 41½ hours per week, with half an hour for meals.

"'(2) That where other than 44 hours per week was in operation on May 22, 1924, the normal working week shall not exceed 46½ hours, and the same shall be maintained until altered by mutual agreement. In this case the operatives will be entitled to claim two meal hours. (Note.—This clause will not apply where the extended number of hours were being worked in violation of any understanding which had existed in the locality.)

"'(3) The provision for the half-hour for meals in Clause 1 to be subject to ratification by the National Wages and Conditions Council.'"

Clyde Bridge.

The Glasgow Statute Labour Committee has agreed to the plans of the City Engineer for the proposed bridge across the Clyde at Dixon-street.

Lord Lister Memorial.

A memorial to Lord Lister was recently unveiled in Kelvingrove Park by Sir Hector Cameron. The statue, which is the work of Mr. G. H. Paulin, A.R.S.A., is of bronze, mounted on a granite base.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur :—

	Masons.	Bricklayers.	C'p'ters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Birkenhead	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Brentwood	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cambridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Colchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
E. Glam.(Mon. Vall)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Exeter	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gloucester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Grays	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Great Yarmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hereford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ipswich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Lancaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Liverpool	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Luton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Plymouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Reading	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Scarborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stroud	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Taunton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Torquay	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Windsor	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½

(For rates of wages in the Building Trade in Scotland, see page 491.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

✱SEPTEMBER 24.—**Various Places.**—SUNDRY WORKS.—(1) Minor alterations in laundry at Brook Hospital, Shooter's Hill, S.E.18. (2) New steel pale fencing at High Wood Hospital, Ongar-road, Brentwood, Essex. (3) Repairing wood girders at Belmont Institution, Belmont, Surrey. (4) Sundry repairs, Hackney Casual Ward, Gainsborough-road, Homerton, E. (5) Painting and repairs, Poplar Casual Ward, St. Leonard's-street, Bromley, E.14. (6) Painting and repairs, T.S. Exmouth Infirmary, Grays, Essex. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

SEPTEMBER 27.—**Barry.**—HOSPITAL ADDITIONS.—Erection of additions and sundry works at the General Accident and Surgical Hospital, Barry Docks. Mr. J. C. Pardoe, A.M.I.C.E., Surveyor, Council Offices, Holton-road, Barry. Deposit £2 2s.

SEPTEMBER 27.—**Edgware.**—FENCING.—(*a*) Erection of a fence wall on the western boundary of land in North-road, Edgware, 7 ft. high and 120 ft. long; (*b*) supply and erection of about 366 yds. run of unclimbable iron fencing, &c., on land adjoining Children's Hospital, Edgware, for the Guardians of the Edgware Union. Mr. C. W. Wyles, Clerk to the Guardians, Union Offices, Edgware, between 10 a.m. and 4 p.m.

SEPTEMBER 27.—**Portishead.**—HOUSES.—Erection of 10 cottages, for the U.D.C. Mr. F. H. Smith, Surveyor to the Council, Council Offices, Portishead. Deposit £1 1s.

SEPTEMBER 27.—**West Ham, E.15.**—SCHOOL.—Erection of a secondary school on a site at Cumberland-road, Plaistow, for the E.C. of the County Borough of West Ham. Mr. John H. Jacques, Lic.R.I.B.A., Architect to the Committee, 61, West Ham-lane, Stratford, E.15. Deposit £2.

SEPTEMBER 29.—**Barnsley.**—PAINTING.—For the cleansing, painting and decorating of the Administrative Block and Long Block, at the Kendray Hospital, Barnsley, for the T.C. The Borough Engineer, Fairfield House Offices, Barnsley.

SEPTEMBER 29.—**Barnsley.**—PAINTING, &C.—(1) External painting of the whole of the Institution premises, except infirmaries. (2) New bathrooms to Block 6, for the B.G. Messrs. Crawshaw & Wilkinson, 13, Regent-street, Barnsley.

SEPTEMBER 29.—**Dublin.**—CONVERSION.—Conversion of Block N at Keogh (late Richmond) Barracks into 60 flats; and (*b*) of blocks F and J at the same Barracks into 36 flats, for the Commissioners of Public Works. Mr. J. J. Healy, Secretary, Office of Public Works, Dublin.

SEPTEMBER 29.—**Dumfries.**—POST OFFICE.—For erection of a new Post Office, &c., at Dumfries, for H.M. Office of Works. Architect, H.M. Office of Works, 4-5, Drumsheugh-gardens, Edinburgh. Deposit £1 1s.

SEPTEMBER 29.—**Halifax.**—SUB-STATION.—For the erection of a sub-station at Hough, Northowram, for the T.C. Borough Engineer, Crossley-street, Halifax.

SEPTEMBER 29.—**Leicester.**—PUMPING STATION EXTENSIONS.—For the extensions of the Abbey Pumping Station, engine house, pump basement, &c., for the T.C. Mr. E. G. Mawbey, City Engineer, Town Hall, Leicester.

SEPTEMBER 29.—**Merthyr.**—GARAGE.—Building of an ambulance garage at Merthyr General Hospital. Architect's Office, 112, High-street.

SEPTEMBER 29.—**Morley.**—HOUSES.—Erection of 22 houses on the Middleton-road Housing Estate, for the T.C. Borough Engineer, Town Hall, Morley. Deposit £2 2s.

SEPTEMBER 29.—**Morley.**—PLASTERING.—Labour and materials required in connection with the plasterers' work only for 26 houses, on Middleton Housing Site, for the T.C. Borough Engineer, Town Hall, Morley. Deposit £2 2s.

SEPTEMBER 29.—**Staines.**—COTTAGES, DRAINS, &C.—Erection of two five-roomed cottages of similar design with the construction of the necessary drains, &c., at Littleton Reservoir Works, both in the parish of Laleham, near Staines; also for the construction near one of the cottages of the superstructure only of a house (approximately 28 ft. by 14 ft. by 13 ft. high to roof plate) for containing venturi meter recorders for the Metropolitan Water Board. Office of the Board, Chief Engineer's Department (Room 201), New River Head, Rosebery-avenue, Clerkenwell, E.C.1. Deposit £5.

SEPTEMBER 29.—**Windsor.**—PAINTING.—For the redecoration of the Infirmary, Old Windsor, for the Board of Guardians. Matron-in-Charge, Poor Law Institution, Old Windsor.

SEPTEMBER 29.—**Worthing.**—PIER PAVILION, RECONSTRUCTION OF THE PARADE BANDSTAND.—(A) New pier pavilion, consisting of light steel-frame and reinforced concrete building on screw piling, with small extension of entrance to pier to provide seating accommodation for about 1,200 people (Contract No. 1); and (B) The reconstruction of the parade bandstand enclosure, consisting of a light steel and reinforced concrete structure and screw pile foundation to provide seating accommodation for about 2,200 people (Contract No. 2), for the Corporation of Worthing. Borough Surveyor's Office, Municipal Offices, Tudor Lodge, Chapel-road, Worthing. Deposit £3 3s.

SEPTEMBER 30.—**Barry.**—READING-ROOM.—For the erection of a branch reading-room at Barry Island, for the U.D.C. Mr. E. R. Hinchsliff, F.S.I., Public Offices, Barry. Deposit £1 1s.

SEPTEMBER 30.—**Belfast.**—RESCUE HOME.—For the removal of existing premises and rebuilding of rescue and maternity home, Malone-place, Belfast. Mr. Godfrey W. Ferguson, M.S.A., architect, 83, Royal-avenue, Belfast. Deposit £3 3s.

SEPTEMBER 30.—**Caerleon.**—PAINTING.—For the external painting of part of the Newport Mental Hospital buildings, for the Visiting Committee. Clerk and Steward at the Hospital.

SEPTEMBER 30.—**Carlisle.**—OFFICE, &C.—Erection of office and lavatory accommodation, open shed, mess room and store, at Public Slaughter Houses, for the T.C. Mr. Henry C. Marks, M.Inst.C.E., City Engineer, 18, Fisher-street, Carlisle.

SEPTEMBER 30.—**Coventry.**—PAINTING, &C.—For the external painting on the housing estates, Radford-road, London-road, and Gorton-road, for the Commissioners of H.M. Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

✱SEPTEMBER 30.—**Great Malvern.**—PUBLIC BATHS.—Erection at Malvern of new public baths, for the Malvern U.D.C. Mr. Alfred J. Taylor, F.S.Arc., 18, New Bond-street, Bath. Deposit £2 2s.

SEPTEMBER 30.—**Lynmouth.**—SCHOOL.—For the erection of a Council school at Lynmouth to accommodate about 380 scholars, for the Northumberland C.C. Mr. C. Williams, Director of Education, The Moothall, Newcastle-upon-Tyne. Deposit £2 2s.

SEPTEMBER 30.—**Maidenhead.**—HOME.—For the erection of a children's home at Cannon Court-lane, Furze Platt, near Maidenhead, for the Board of Guardians. Messrs. Albury, Rising & Morgan, 154, Friar-street, Reading. Deposit £1 1s.

SEPTEMBER 30.—**Neath.**—LAUNDRY ADDITIONS.—For additions and alterations to the laundry block and entrance-hall at the Glamorgan Farm School (Ty Segur), for Glamorgan C.C. Plans at School.

SEPTEMBER 30.—**Saffron Walden.**—LAUNDRY EXTENSION, &C.—For the extensions to laundry and other sundry works at Saffron Walden Hospital. Messrs. Pick, Everard, Keay & Gimson, architects, 6, Millstone-lane, Leicester.

SEPTEMBER 30.—**Scartho.**—ALTERATIONS.—For additions to the Council School at Scartho, near Grimsby, for Lindsey County Council E.C. Messrs. Scorer & Gamble, architects, Bank-street Chambers, Lincoln.

OCTOBER 1.—**Blackwell.**—HOUSES.—Erection of 20 parlour and 20 non-parlour type houses, for the R.D.C. Mr. A. H. Elliott, A.M.Inst.C.E., architect, 8, Union-street, Mansfield. Deposit £2.

OCTOBER 1.—**Burnley.**—TELEPHONE EXCHANGE.—For the erection of telephone exchange, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

OCTOBER 1.—**East Ham, E.6.**—FEEDING CENTRE.—Erection of a feeding centre on the school site in Dersingham-avenue, Manor Park, for the E.C. of the County Borough of East Ham. Borough Engineer, Town Hall, East Ham, E.6. Deposit £3.

OCTOBER 1.—**Felling.**—CLINIC.—For the erection of a School Clinic at Heworth, for the U.D.C. Mr. C. W. Hall, Council Buildings, Felling.

OCTOBER 1.—**Felling.**—HOUSES.—Erection of 20 houses on the Falla Park Estate, for the U.D.C. Mr. C. W. Hall, Architect, Council Buildings, Felling.

OCTOBER 1.—**London, N.1.**—ALTERATIONS AND ADDITIONS.—Alterations and additions at the Electricity Station, Eden-grove, Islington, N., and for alterations and conversion into offices and garage of No. 2, Burnard-place, Eden-grove, Holloway-road, Islington, N.7, for the Metropolitan Borough of Islington. Mr. C. G. E. Fletcher, Town Clerk, Municipal Offices, Tyndale-place, Upper-street, N.1.

OCTOBER 1.—**Sheffield.**—BATHS, &C.—For the erection of new district baths and manager's house, Langsett-road and Walkley-lane, Hillsborough, for the T.C. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield. Deposit £2.

OCTOBER 1.—**Swindon.**—HOUSES.—Erection of 30 houses on the Hurst Estate, for the T.C. Mr. John B. L. Thompson, Borough Engineer, 34, Regent-circus, Swindon.

OCTOBER 1.—**Tuam (Galway).**—CHURCH REPAIRS.—Improvements and repairs to the cathedral church of St. Jarlath, Tuam, Co. Galway. Mr. R. M. Butler, F.R.I.B.A., 23, Kildare-street, Dublin.

OCTOBER 1.—**Wallsend.**—PAINTING.—For painting and decoration at The Hall, for the T.C. Borough Surveyor, Town Hall, Wallsend.

OCTOBER 1.—**Woking.**—WALL.—For the erection of a brick wall at Boundary-road, for the U.D.C. Mr. C. J. Wooldridge, Surveyor, Council Offices, Woking.

OCTOBER 2.—**Fulham.**—REPAIRS.—Execution of building and guttering repairs, pointing, &c., at the Infirmary, St. Dunstan's-road, for the B.G. Mr. E. J. Mott, Clerk to the Guardians, 129, Fulham Palace-road, London, W.6.

OCTOBER 2.—**Halifax.**—PAINTING.—For the outside painting of the Halifax Friendly and Trade Societies' Club. Mr. L. T. Wormald, Secretary, Halifax.

✱OCTOBER 3.—**Croydon, Surrey.**—ADDITIONS.—Additions to the hospital situate at North Cheam, Surrey, and which is now in use as the Croydon Borough Sanatorium. Mr. Robert M. Chart, F.S.I., Surveyor to the Croydon and Districts Joint Smallpox Hospital Board, of Chart, Son & Reading, Union Bank Chambers, Croydon. Deposit £1.

OCTOBER 3.—**Huddersfield.**—ADDITIONS.—For the erection of additions to kitchen at the Crosland Moor Institution, for the B.G. Mr. Joe Ainley, Architect, 55, New-street, Huddersfield.

OCTOBER 3.—**London, E.1.**—STORES.—Erection of new central stores in the forecourt at the Royal Mint, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit, £1 1s.

OCTOBER 3.—**Long Eaton.**—HOUSES.—Erection of 54 non-parlour houses, for the Long Eaton U.D.C. Mr. H. Raven, C.E., Architect, The Hall, Long Eaton. Deposit £5 5s.

✱OCTOBER 3.—**Scarborough.**—HOUSES.—Erection of one block of 24 houses, for the T.C. Mr. Harry W. Smith, A.M.I.C.E., Borough Engineer, Scarborough.

OCTOBER 4.—**Glasgow.**—POWER STATION EXTENSION.—For the various works in connection with the extension of Dalmarnock Generating Station, for the T.C. City Electrical Engineer, 75, Waterloo-street, Glasgow.

OCTOBER 4.—**London, S.W.1.**—DEMOLITION.—For demolition of temporary buildings at the War Office, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

✱OCTOBER 4.—**London, W.1.**—REPAIRS TO WALL.—Repairs to boundary wall abutting St. Mark's-road, at St. Marylebone Hospital, Notting Hill, W.10, for the Board of Guardians of St. Marylebone. Messrs. Constantine & Vernon, architects, 82, Mortimer-street, W.1. Deposit £1 Treasury Note.

OCTOBER 4.—**Renfrew.**—HOUSES.—For the various works in connection with the erection of 60 houses at Moorpark, for the T.C. Mr. Hamilton Neil, architect, 163, St. Vincent-street, Glasgow.

OCTOBER 6.—**Barnsley.**—PAINTING.—For painting the railings and gates to St. Mary's Churchyard. Borough Engineer, Fairfield House Offices, Barnsley.

OCTOBER 6.—**Cwmcarn.**—SCHOOL.—Erection of new infants' school at Cwmcarn, Mon, and alteration of the present school, for the Monmouthshire E.C. Mr. John Bain, F.R.I.B.A., County Hall, Newport.

OCTOBER 6.—**Holmfirth.**—WALL.—For taking down and rebuilding of retaining and fence wall on the Greenfield and Shepley main road, for the U.D.C. Mr. Geo. Bray, Surveyor, Council Offices, Holmfirth.

OCTOBER 6.—**Lurgan.**—ALTERATIONS.—For additions and alterations to Lurgan College, for the Governors. Mr. Robert Lynn, M.R.I.A.I., architect, 14A, Ann-street, Belfast. Deposit £1 1s.

OCTOBER 6.—**Stretford.**—SCHOOL.—For the erection of a central school in Gorse Park, for the U.D.C. Mr. Percy Howard, A.R.I.B.A., Architect, 88, Mosley-street, Manchester. Deposit £1 1s.

OCTOBER 6.—**Tarleton.**—HOUSES.—Erection of four cottages in Coe-lane, Tarleton, for the Lancashire C.C. Mr. W. H. Schofield, A.M.I.C.E., County Surveyor and Bridgemaster, Preston.

OCTOBER 6.—**Thundersley.**—SCHOOL.—For extensions to Thundersley Council School, for the Essex C.C. County Architect, Old Court, Springfield, Chelmsford. Deposit £1 1s.

OCTOBER 6.—**Warrenpoint (Ireland).**—HOUSES.—For the erection of 10 workmen's dwellings, for the U.D.C. Mr. S. J. M'Avoy, M.R.I.A.I., 66, University-avenue, Belfast.

OCTOBER 7.—**Dunmow.**—FARM.—Erection of a set of farm premises at Puttocks Farm, Dunmow, for the Small Holdings Committee of the Essex C.C. Mr. Chas. Lock, P.A.S.I., County Land Agent, Chelmsford. Deposit £1 1s.

OCTOBER 7.—**Evesham.**—POST OFFICE.—For the erection of a P.O. at Evesham, Worcestershire, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

✱OCTOBER 7.—**Hendon, N.W.9.**—BUILDING.—Building new single wards at Colindale Hospital, Hendon, N.W.9, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

OCTOBER 7.—**Liverpool.**—SCHOOL.—For the erection of new Council school, Springwood Estate, Garston, for the T.C. Land Steward and Surveyor, Municipal Buildings, Liverpool. Deposit £2 2s.

OCTOBER 7.—**Morley.**—HOUSES.—Erection of 48 houses on the Middleton Road Housing Estate, for the T.C. Borough Engineer's Office, Town Hall, Morley. Deposit £2 2s.

OCTOBER 7.—**Nuneaton.**—BAKERY.—Erection of bakery buildings, for the Nuneaton Co-operative Society, Ltd. Mr. W. F. Edwards, architect, 1, Newhall-street, Birmingham. Deposit £1 1s.

OCTOBER 8.—**Bath.**—POST OFFICE, &C.—For the erection of a P.O. and telephone exchange, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit, £1 1s.

✱OCTOBER 8.—**Greenwich, S.E.10.**—CONVENIENCE.—Construction of an underground convenience for both sexes at the foot of Blackheath Hill, Greenwich, for the Greenwich Metropolitan Borough Council. Borough Engineer's Department, Town Hall, Greenwich. Deposit £2 2s.

✱OCTOBER 8.—**Isle of Man.**—ELEMENTARY SCHOOL.—Erection of an elementary school providing accommodation for 500 children. Clerk to the Isle of Man Education Authority, Strand-street, Douglas. Deposit £1 1s.

OCTOBER 8.—**Rushen (Isle of Man).**—SCHOOL.—Erection of an elementary school for 500 children, with extra rooms and a house for the caretaker, at Rushen, for the Isle of Man Education Authority. Mr. T. R. Lewin, Clerk to the Isle of Man Education Authority Strand-street, Douglas. Deposit £1 1s.

OCTOBER 9.—**Farnworth, near Bolton.**—ALTERATIONS.—For alterations (to form a telephone exchange), for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

OCTOBER 10.—**Glasgow.**—PLUMBER AND SLATER WORK.—For plumber and slater work in connection with the erection of Mearnskirk Sanatorium, Mearns, Renfrewshire, for the T.C. Office of Public Works, 64, Cochrane-street, Glasgow. Deposit £5 5s.

OCTOBER 10.—**London, S.E. 9.**—PAINTING.—For external painting, &c., at the Well Hall Estate, Eltham, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

✱ OCTOBER 13.—**Croydon.**—HOUSES.—Erection of 48 houses (comprising 62 tenements) at Thornton-road, Thornton Heath, in two sections of 24 houses each, or as one tender for the whole, for the County Borough Council of Croydon. Borough Engineer, Town Hall, Croydon. Deposit £2 for each section, or £4 for both sections.

OCTOBER 14.—**Guernsey.**—HOUSES.—Erection of 40 houses in Collings-road, and 10 or 12 houses at Saumarez Mill, St. Martin's, for the States Committee for Homes for Workers, States of Guernsey. States Office, Guernsey, or at the office of Mr. Sydney Newcombe, architect, Greve d'Azette, Jersey.

✱ OCTOBER 16.—**Brighton.**—HOUSES.—Erection of 11 houses in Hereford-street, Brighton, for the County Borough Council of Brighton. Borough Surveyor, Town Hall, Brighton. Deposit £1.

✱ OCTOBER 16.—**Warrington.**—HOUSES.—Erection and completion of 54 houses on the Reynolds-street site, for the Housing Committee of the County Borough of Warrington. Borough Engineer and Surveyor, Town Hall, Warrington. Deposit £2 2s.

✱ OCTOBER 17.—**Trowbridge.**—HOUSES.—Erection of 20 houses in 10 pairs on the Rock Housing Estate, for the Trowbridge U.D.C. Mr. Walter W. Snailum, Church-street, Trowbridge.

OCTOBER 27.—**Salcombe.**—ALTERATIONS.—For alterations, &c., at the Salcombe Hotel, Salcombe. Mr. E. H. A. Barron, architect, 11, The Crescent, Plymouth.

NO DATE.—**Bonhill.**—HOUSES.—For the various works in connection with the erection of 27 blocks (comprising 112 houses), at Bonhill, Dumbartonshire, for the Western District Committee. Mr. Joseph Weekes, Architect, 88, College-street, Dumbarton.

NO DATE.—**Branston.**—PAINTING AND FOOTBRIDGE.—For painting three pairs of houses at Washingboro', and building a footbridge, for the R.D.C. Mr. Montagu A. Hall, A.R.I.B.A., architect, 3, Silver-street, Lincoln. Deposit £1.

NO DATE.—**Cardiff.**—STORE.—Ferro-concrete store, for the Wilts. United Dairies, Ltd. Messrs. Henry Budgen & Co., 95, St. Mary-street, Cardiff. Deposit £2 2s.

NO DATE.—**Cramlington.**—ADDITIONS, &C.—For additions, repairs and coating with rough-cast of the Primitive Methodist Manse, Cramlington. Rev. J. B. Wanless, Bourne Villa, Seaton Delavel.

NO DATE.—**Doobally.**—CHURCH.—For the erection of a new church at Doobally, Dowra, co. Cavan, for the Very Rev. F. Gilmartin, P.P. Mr. James Mackey, quantity surveyor, 58, Dame-street, Dublin.

NO DATE.—**Driffield.**—HOUSE, &C.—For the various works required in the erection of detached house, garage, engine house, &c., in Bridlington-road, Driffield. Messrs. Fred. Mitchell & Sons, architects and surveyors, 9, Upper Fountaine-street, Albion-street, Leeds.

NO DATE.—**Filey.**—HOUSES.—For the erection of a pair of semi-detached houses at Filey. Mr. Arthur Easton, architect, 1, Manor-street, Hull.

NO DATE.—**Gorseinon.**—BAKERY.—For erection of bakery, for the Pontardulais Co-operative Society, Ltd. Mr. W. T. Springall, Llc.R.I.B.A., C.W.S., Ltd., St. Mary-street, Cardiff.

NO DATE.—**Llandudno.**—PAINTING.—For painting, plastering, &c., required at the convalescent home, Plas Mariandir, Llanrhos, Llandudno. Mr. Fred Knowles, Secretary, Manchester and Salford Hospital Saturday and Convalescent Homes Fund, 12A, Piccadilly, Manchester.

FURNITURE, MATERIALS, etc.

SEPTEMBER 27.—**Bexley.**—KERB.—For about 1,980 ft. run of 12 in. × 8 in. dressed straight granite kerb. Mr. W. T. Howse, Surveyor, Council Offices, Bexley Heath.

SEPTEMBER 27.—**Bucklow.**—GRANITE SETTS.—Supply of granite setts, broken granite, tarred macadam, chippings, slag, and cinders, for the R.D.C. Mr. R. C. Cordon, Surveyor, 25, Station-buildings, Altrincham.

SEPTEMBER 29.—**Bishop's Stortford.**—GRANITE.—Supply of broken granite and granite chippings, for the U.D.C. Engineer and Surveyor, Council Offices, Bishop's Stortford.

SEPTEMBER 29.—**Loughton.**—GRANITE AND HOGGIN.—For 1,500 tons of railborne granite (1½ in.) and 500 yds. of hoggin, for the U.D.C. Mr. Horace White, Surveyor, Loughton, Essex.

OCTOBER 3.—**Bridgend.**—WATER FITTINGS.—For the supply to the Mid-Glamorgan Water Board of galvanised water piping, &c., for six months. Mr. Elryn W. Davies, Manager, Water Board Offices, Bridgend, Glam.

OCTOBER 3.—**London.**—MATERIALS.—Supply of red and white lead to the Bengal and North Western Railway Co. Mr. E. A. Neville, managing director, 237, Gresham House, E.C. Charge 10s.

OCTOBER 4.—**Gellygaer.**—MATERIALS.—Supply of paving, kerb and channel, concrete fence posts, drain pipes, cement and lime, cast-iron goods, ironmongery, &c., to the U.D.C. Mr. F. Read, Surveyor, Council Offices, Hengoed.

ENGINEERING, IRON AND STEEL.

SEPTEMBER 27.—**Folkestone.**—CONSTRUCTIONAL STEELWORK, STEEL CASEMENTS, AND PATENT GLAZING CONTRACTORS.—(*a*) The supply and erection of cast-iron columns, steelwork in curved roof trusses, &c.; (*b*) steel casements; (*c*) patent roof glazing at the Concert Hall in Marine Gardens, for the Borough Corporation of Folkestone. Mr. A. E. Nichols, M.Inst.C.E., Borough Engineer and Surveyor, Corporation Offices, Folkestone. Deposit £3 3s.

SEPTEMBER 27.—**London, E.C.**—STEEL.—For (*a*) Spring steel; (*b*) mild steel plates and sheets; (*c*) M.S. angles, channels and bars; (*d*) best Yorkshire and grade "A" iron; (*e*) girder bridges, for the Bengal-Nagpur Railway Co., Ltd. Company's Offices, 1:2, Gresham House, Old Broad-street, E.C.2. Fee 20s. per specification.

SEPTEMBER 29.—**Rochford (Essex).**—ALTERATIONS, HEATING AND HOT WATER.—Competitive tenders from contracting engineers, for the proposed alterations and additions to the heating and hot water supply services and boiler plant at the Rochford Union, for the Guardians. Mr. F. Broadhurst Craig, 1, Fitzroy-street, London, W.1; and 22, Cooper-street, Manchester. Deposit £5 5s.

SEPTEMBER 29.—**Sheffield.**—SCREEN CHAMBER.—For the erection of a screen chamber in Ponds Dam Shude-lane, for the T.C. Mr. S. E. Fedden, Engineer, Commercial-street, Sheffield. Deposit £1 1s.

SEPTEMBER 30.—**Trowbridge.**—ROAD PLANT.—Supply of (*a*) 12 two-ton (British make) petrol lorries, side tippers, hand-operated; (*b*) four five-ton tandem quick reverse rollers, steam or internal-combustion engines; (*c*) tarspraying machines, minimum 500 gallons capacity; (*d*) six bitumen boilers, to the Wilts C.C. Mr. J. G. Powell, County Surveyor Trowbridge.

OCTOBER 1.—**Haslemere.**—CAST-IRON WATER MAINS.—For 2,027 yds. 6 in., and 340 yds. 2 in. cast-iron water main, &c., Mr. C. A. Best, Surveyor to the Council, Council Offices, Haslemere. Deposit £1 1s.

OCTOBER 1.—**Howdon.**—STEEL SHED.—For a steel shed at Howdon-on-Tyne, for the Tyne Improvement Commissioners. Mr. Albert Blacklock, Secretary, Tyne Improvement Commission Offices, Bewick-street, Newcastle-upon-Tyne. Deposit £2 2s.

OCTOBER 2.—**Askern.**—WATER MAINS.—For furnishing and laying of about 4,400 yds. of 9 in. cast-iron water mains, for the Doncaster R.D.C. Messrs. D. Balfour & Son, Engineers for the Works, 3, St. Nicholas Buildings, Newcastle-on-Tyne. Deposit £3.

OCTOBER 2.—**Norton.**—WATER MAINS, &C.—Furnishing and laying of 2,300 yds. of 5 in. cast-iron water mains, for the Doncaster R.D.C. Messrs. D. Balfour & Son, Engineers for the Works, 3, St. Nicholas Buildings, Newcastle-on-Tyne. Deposit £3.

OCTOBER 4.—**Lancashire.**—BRIDGES.—For the construction of two bridges (masonry and ferro-concrete structures) over the River Irwell, at the boundary of Bury and Radcliffe, for the Lancashire C.C. Mr. W. H. Schofield, County Offices, Preston.

OCTOBER 4.—**Llangeinor.**—FENCING.—Erection of 190 lineal yards of unclimbable wrought-iron fencing at Reservoir at Llangeinor, for Mid-Glamorgan Water Board. Messrs. Thomas & Morgan & Partners, engineers, 23, Gellwastad-road, Pontypridd. Deposit £2 2s.

OCTOBER 6.—**Dundee.**—ESPLANADE, &C.—For construction of a sea wall or bulwark extending to 3,200 ft., and 1,000 ft. of breakwater in rubble; also 1,300 ft. of 32 in. diameter outfall sewer, with reinforced concrete piles and groynes, for the T.C. Mr. George Baxter, City Engineer, 91, Commercial-street, Dundee.

OCTOBER 8.—**Birmingham.**—BRIDGE.—Supply and erection of steel girders, &c., in connection with the reconstruction of the bridge over the Tame Valley Canal, Salford Bridge, Lichfield-road, Erdington, for the T.C. Mr. Herbert H. Humphries, City Engineer, Council House, Birmingham. Deposit £2.

✱ OCTOBER 13.—**Aldershot, Hants.**—ARTIFICER'S WORK.—Maintenance Contracts, from October 15, 1924, at the Station hereafter mentioned in the South Aldershot Royal Engineer District of the Aldershot Command 1:—South Aldershot, including Ewshot and Crookham. Commanding Royal Engineer, R.E. Office, Headquarters, Stanhope Lines, Aldershot, Hants.

OCTOBER 15.—**Bedlington.**—CULVERT.—Construction of a concrete culvert and the diversion of the Sleekburn under Sleekburn Viaduct, near Bedlington Station, for the London & North Eastern Railway Co. Chief Engineer, North Eastern Area, York.

OCTOBER 15.—**North Seaton.**—VIADUCT.—For the reconstruction of North Seaton Viaduct, for the London & North Eastern Railway Co. Office of the Chief Engineer, North Eastern Area, York.

OCTOBER 28.—**Wellington, N.Z.**—BRIDGE SPANS.—For plate girder spans for Wairoa, Rangitaiki and Awakeri bridges, for N.Z. Public Works Board. Dept. of Overseas Trade, 35, Old Queen-street, S.W.1.

OCTOBER 31.—**Beaufort West (Cape Provinces).**—Electric power station plant, for the T.C. Department of Overseas Trade (Room 52).

NOVEMBER 3.—**Sydney, N.S.W.**—BRIDGE SPANS.—For metal work for superstructure of bridge, at Tom Ugly's Point, for Department of Public Works, Sydney. Dept. of Overseas Trade, 35, Old Queen-street, S.W.1.

NOVEMBER 20.—**Chile.**—HARBOUR WORKS.—**For harbour works in the port of Lebu. Chilean Legation, 22, Grosvenor-square, W.1.**

DECEMBER 31.—**Hamilton.**—BRIDGE.—Erection of Clyde Bridge, Hamilton, for the Joint Committee of the County Council of the County of Lanark, Town Council of the Burgh of Hamilton, and Town Council of the Burgh of Motherwell and Wishaw. Messrs. Formans & M'Call, C.E., 160 Hope-street, Glasgow. Deposit £1 1s.

ROAD, SANITARY, AND WATER WORKS.

SEPTEMBER 27.—**Birkenhead.**—STREET WORKS.—For street works in Norman-street, for the T.C. Mr. Chas. Brownridge, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Birkenhead. Deposit £1 1s.

SEPTEMBER 27.—**Harrogate.**—STREET WORKS.—For private street works in Chelmsford-road, for the T.C. Mr. C. E. Rivers, Assoc.M.Inst.C.E., Borough Engineer and Surveyor, Municipal Offices, Harrogate.

SEPTEMBER 27.—**Middleton.**—WATER MAIN LAYING.—For piping-in the open Goyt along Mill Dam Side, Middleton, including the construction of a small storage tank; laying new cast-iron water mains, and adjusting existing water mains, &c., for the T.C. Borough Engineer and Surveyor, Town Hall, Middleton, Lancs.

SEPTEMBER 27.—**Reigate.**—SEWER.—For sewer extensions in Balcombe-road, Horley, for the R.D.C. Mr. F. E. Traviss, Sanitary Surveyor, 48, High-street, Reigate. Deposit £2 2s.

SEPTEMBER 27.—**Surbiton.**—STONE PIPE SEWERS.—For the construction of about 400 yds. of stoneware pipes for soil and surface water sewers on the Westfield Lodge Estate, for the U.D.C. Mr. H. T. Mather, Surveyor, Council Offices, Ewell-road, Surbiton. Deposit £1 1s.

SEPTEMBER 29.—**Carlisle.**—SEWERS.—For the construction of a concrete and brick settling tank, the laying of about 100 lineal yards of 9 in. stoneware pipes and other incidental work at Stainton, for the R.D.C. Mr. J. C. Boyd, engineer, 18, Bank-street, Carlisle. Deposit 10s. 6d.

SEPTEMBER 29.—**Denholme.**—ROADS.—For laying 240 super. yds. of stone setts, for the U.D.C. Mr. John H. Ingham, Council Offices, Denholme.

SEPTEMBER 29.—**Hanwell.**—CONVENIENCE.—For public convenience, Churchfields, for the U.D.C. Surveyor, Council Offices, Hanwell.

SEPTEMBER 29.—**Millport.**—WATER SUPPLY.—For the construction of sand filters, clear water tank, and the providing and laying of about 1,100 yds. of 8 in. and 6 in. pipes, for the T.C. Mr. John Cowan, engineer, 204, St. Vincent-street, Glasgow. Deposit £2 2s.

SEPTEMBER 29.—**Nottingham.**—CONVENIENCE.—For the erection of a ladies' lavatory at Bulwell, for the T.C. City Engineer, Guildhall, Nottingham. Deposit £1 1s.

SEPTEMBER 29.—**Totnes.**—ROADS.—For the widening of Station-road, for the T.C. Mr. Robt. N. Armstrong, Borough Surveyor, Totnes.

SEPTEMBER 30.—**Dublin.**—CONCRETE ROAD.—For laying of a reinforced concrete roadway at Fairview, for the Dublin Commissioners. City Treasurer. Municipal Offices, Lord Edward-street, Dublin. Deposit £1 1s.

SEPTEMBER 30.—**New Malden.**—ROADS.—For making up various roads, for the Maldens and Coombe U.D.C. Mr. Reginald H. Jeffes, A.M.I.C.E., Engineer and Surveyor, Council Offices, New Malden. Deposit £2 2s.

OCTOBER 1.—**Barnet.**—ROAD.—For making up Glenhaven-avenue, for the R.D.C. Mr. A. J. Wilshire, Engineer and Surveyor to the Council, Council Offices, 1, Hillside-avenue, Boreham Wood.

OCTOBER 1.—**Birmingham.**—ROADS.—For providing and laying granite kerbing and concrete flag paving upon footpaths in Great Hampton-street, for the T.C. Mr. Herbert H. Humphries, City Engineer, Council House, Birmingham. Deposit, £2.

OCTOBER 1.—**Dinas Powis.**—STREET IMPROVEMENTS.—Street improvement works in Elmgrove-place, Dinas Powis, for the Cardiff R.D.C. Mr. William Farrow, Surveyor, Park House, 20, Park-place, Cardiff.

OCTOBER 1.—**Hove.**—ROAD.—Making up roadway, &c., in Valance-road. Mr. H. H. Scott, Borough Surveyor, Town Hall, Hove.

OCTOBER 1.—**Wallsend.**—PRIVIES CONVERSION.—For the conversion of cell privies into water closets. Borough Surveyor, Town Hall, Wallsend.

OCTOBER 3.—**Cylla and Deri Valleys.**—SEWERAGE WORKS.—For carrying out, for the Gellygaer U.D.C., of the construction of about 11 miles of 15 in., 12 in. and 9 in. diameter glazed stoneware and cast-iron pipe sewers, together with manholes, storm overflows, gauging chambers, and other incidental works. Messrs. Wilcox & Raikes, 63, Temple-row, Birmingham. Deposit £7 7s.

OCTOBER 4.—**Chapel-en-le-Frith.**—SEWER.—Construction of detritus tanks and other work in the alteration and extension of sewage outfall works, for the R.D.C. Messrs. Brady & Partington, engineers, Market-street, Chapel-en-le-Frith. Deposit £5.

OCTOBER 4.—**Chester.**—SEWER.—Construction of a surface water outfall sewer in concrete tubes and cast-iron pipes, for the T.C. Mr. Charles Greenwood, Assoc.M.I.C.E., City Engineer and Surveyor, Town Hall, Chester. Deposit £1 1s.

OCTOBER 4.—**Honiton.**—BRIDGE.—For taking down existing stone bridge and constructing a reinforced concrete bridge on the Kahn Bar System of the Trussed Concrete Steel Co., Ltd.; also forming a new road over the whole length of the bridge, for the T.C. Mr. J. W. Jones, Borough Surveyor, Honiton. Deposit £1 1s.

OCTOBER 6.—**Beckenham.**—ROADS.—For the widening of Upper Elmers End-road, for the U.D.C. Mr. J. A. Angell, Surveyor, Beckenham. Deposit £2.

OCTOBER 6.—**Hemsworth.**—SANITARY.—For the conversion of certain existing privies and ashpits, &c., into 18 W.C.s, at Grimethorpe, for the R.D.C. Mr. W. T. Lynam, Surveyor, Council Offices, 29, Rotherham-road, Hemsworth.

OCTOBER 6.—**Hornchurch and Rainham.**—SEWERS.—Construction of sewers, for Romford R.D.C. Mr. W. J. Grant, Surveyor to the Council, 16A, South-street, Romford.

OCTOBER 6.—**Lancashire.**—ROAD IMPROVEMENT AND ERECTION OF COTTAGES.—Improvement of Preston-Liverpool main road and erection of four cottages in Coe-lane, Tarleton, for the Main Roads and Bridges Committee of the Lancashire County Council. County Surveyor's Office, County Offices, Preston.

✱OCTOBER 6.—**London, N.W.3.**—REMOVAL OF REFUSE.—Daily removal and disposal of pulverised house refuse from the Dust Disposal Dept., adjoining the Metropolitan Railway, West Hampstead Station, N.W.6, for one year or for three years, from April 1, 1925. Mr. Oliver E. Winter, M.Inst.C.E., Borough Engineer. Town Hall, Haverstock-hill, N.W.3.

OCTOBER 6.—**Manchester.**—BRIDGE WIDENING.—For the widening of Slade-lane Bridge over the London & North Eastern Railway, for the T.C. City Engineer's Office, Town Hall, Manchester. Deposit £2 2s.

OCTOBER 6.—**Warrenpoint (North Ireland).**—SEWERAGE.—For the improvement of the sewerage, for the U.D.C. Mr. S. J. M'Avoy, M.R.I.A.I., 66, University-avenue, Belfast.

✱OCTOBER 7.—**Gellygaer.**—ROADS AND SEWERS.—New roads and sewers on the Heolddu housing site, Bargoed, for the Gellygaer U.D.C. The work includes excavation, filling, ballasting, metalling, kerb and channel, footpaths, grass verges and tree planting, and drainage, &c. Mr. P. Jones-Williams, Architect to the Council. Deposit £2 2s.

✱OCTOBER 7.—**Hendon, N.W.9.**—ROADS.—Laying tar macadam to roads, Colindale Hospital, Hendon, N.W. 9, for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1.

OCTOBER 13.—**Coseley.**—SEWERAGE.—Stoneware and cast-iron sewers, manholes, pumping station, and other works at Princes End, for the U.D.C. Messrs. Berrington, Son, & Watney, engineers, Prudential Chambers, Lichfield-street, Wolverhampton. Deposit £5 5s.

OCTOBER 14.—**Southall-Norwood.**—CARRIAGEWAYS.—For resurfacing carriageways in various streets. Mr. J. B. Thomson, Assoc.M.Inst.C.E., Engineer and Surveyor to the Council, Town Hall, Southall.

OCTOBER 20.—**Fermanagh.**—ROADS.—For construction of roads, for the C.C. Mr. J. P. Burkett, County Surveyor, Enniskillen. Deposit £5.

NO DATE.—**Knaresborough.**—SEWER.—Excavating trench and laying main sewer at High Bridge, for the R.D.C. Mr. W. Lupton, surveyor, 14, Bower-road, Harrogate.

NO DATE.—**Newbottle.**—CONCRETING.—For concreting and paving store yard, for the Newbottle and District Co-operative Society, Ltd., Newbottle, Houghton-le-Spring.

Competitions.

(*See Competition News*, page 466)

Auction Sales, Tenders, etc.

SEPTEMBER 27.—**Lincolnshire.**—Messrs. Escritt & Barrell will sell, at the Estate Sale Rooms, Elmer House, Grantham (unless previously disposed of by private treaty), the valuable freehold brickworks and premises, including Hoffman kiln, machine shed and power house, fitter's shop and offices, &c., the whole extending to an area of 11 acres, 1 rood, 29 perches (more or less). Auctioneers, Elmer House, Grantham.

OCTOBER 1.—**Horley, Surrey.**—Mr. C. E. Clark will sell, without reserve, at Market Field, Horley, Surrey, prime timber and builders' effects (bright, square and new). Auctioneers, Beddington House, Beddington, near Croydon.

OCTOBER 1.—**London, S.E.**—Messrs. Veryard & Yates will sell, to clear site, without reserve, "Hazlewood," Church-road, Upper Norwood, useful building materials, from demolition of the mansion. Auctioneers, 365, Norwood-road, S.E. 27.

✱OCTOBER 2.—**London, N.W.**—Messrs. H. W. Smith & Moon (in conjunction with Messrs. Francis French & Co.), important unreserved sale at the works in Grange-road, High-road, Willesden Green, N.W., builders', contractors' and decorators' stock, plant and machinery, several standards of well-seasoned joinery timber, R.W. goods, paint and glass, ironmongery, machinery, &c. Auctioneers, 6, Great James'-street, Bedford-row, W.C.1, and 10, Eastcheap, E.C.3.

✱OCTOBER 2.—**Sunbury.**—Messrs. Duncan B. Gray & Partners will sell, at Nuthall's Restaurant, Kingston-on-Thames, freehold building land, situate on the Sunbury Manor Estate. Auctioneers, 129, Mount-street, Grosvenor-square, London, W.1.

✱OCTOBER 2 AND 3.—**Willesden, N.W.**—Messrs. H. W. Smith & Moon (in conjunction with Messrs. Francis French & Co.) will sell, without reserve, at the works in Grange-road, High-road, builders', contractors' and decorators' stock, plant and machinery, and several standards of joinery timber. Auctioneers, 6, Great James'-street, Bedford-row, W.C.1.

✱OCTOBER 3.—**London, S.E.**—Mr. C. E. Clark will sell, without reserve, at Rollins Wharf, Canterbury-road, Peckham, S.E., large quantities of prime and new timbers of various varieties. Auctioneers, Beddington House, Beddington, near Croydon.

✱OCTOBER 7.—**Stockwell.**—Messrs. Joseph Hibbard & Sons will sell, without reserve, by order of the owner, upon the premises, Lansdowne Works, Lansdowne-road (near "The Swan," Stockwell), the stock and plant of builder's and contractor's, comprising timber, saw mill machinery, lorry, delivery van: the valuable freehold premises to be sold. Auctioneers, 15, Newington-green, Islington, London, N. 16.

✱OCTOBER 8.—**Surrey.**—Mr. C. E. Clark will sell, without reserve, at Eastwick Farm Buildings, Lower-road, Great Bookham, Surrey, timbers and builders' effects. Auctioneers, Beddington House, Beddington, near Croydon.

OCTOBER 9.—**London, E.C.**—Mr. Joseph Stower will sell, at Winchester House, Old Broad-street, E.C., freehold property containing the important area of 74,700 ft., or about 1¾ acres, on the north side of the main road between Bow Station and Bow Bridge, formerly St. Catherine's Convent. Auctioneer, 43, Chancery-lane, London, W.C.2.

✱OCTOBER 10.—**London, E.C.**—Messrs. C. C. & T. Moore will sell, at the London Auction Mart, a freehold and copyhold estate at Enfield. Auctioneers, 7, Leadenhall-street, E.C.3.

Public Appointments.

SEPTEMBER 29.—**Wolverhampton.**—Temporary Engineering Assistant required by the Corporation of Wolverhampton. Applicants must have qualified by examination through the Institution of Civil Engineers, the Municipal and County Engineers, or similar Institution. Applications, accompanied by copies of not more than three recent testimonials, to Mr. George Green, M.Inst.C.E., Borough Engineer, Town Hall, Wolverhampton.

✱SEPTEMBER 30.—**Lancashire.**—Architectural Draughtsman required by the Lancashire County Council in the County Architect's Department. County Architect, 16, Ribblesdale-place, Preston.

✱OCTOBER 2.—**Harpenden.**—Surveyor and Sanitary Inspector required by the U.D.C. Mr. Chas. S. Tuckey, Clerk to the Council, Clerk's Office, 23, High-street, Harpenden.

✱OCTOBER 8.—**London, S.W. 17.**—BUILDING INSPECTOR.—Building Inspector required in the Borough Engineer's Dept., by the Metropolitan Borough Council of Wandsworth. Mr. Ernest J. Elford, 215, Balham High-road, S.W. 17.

✱OCTOBER 10.—**Scarborough.**—Clerk of Works, to act under the direction of the Borough Engineer, for the various buildings and works carried out by the Borough Council of Scarborough. Mr. Harry W. Smith, A.M.I.C.E., Borough Engineer, accompanied by copies of not more than three recent testimonials.

OCTOBER 14.—**Auckland, New Zealand.**—Professor of Architecture required by Registrar, Auckland University College, Auckland. London Agent of the University of New Zealand, J. W. Joynt, M.A., 88, Gower-street, W.C.1.

✱NO DATE.—**London, S.W.1.**—Clerks and Foremen of Works required for temporary Government posts. Joint Substitution Board (Treasury and Ministry of Labour), Montagu House, Whitehall, S.W.1.

Housing Costs.

Mr. Wheatley (Minister of Health), speaking recently at Glasgow, dealt with the difficulty of ascertaining bed-rock prices for constructing houses, and appealed to municipalities to make a public test. For this purpose he suggested Glasgow Corporation should undertake a small housing scheme, sufficiently large to enable them to get bed-rock prices, make the best arrangements for organising their material, and collect through public appeal, if necessary, a good class of worker, asking them to do their best to keep a careful record of their costs. Let them see at the end of such a scheme at what rate and at what price working-class houses could be erected.

He invited public-spirited contractors to give a public demonstration of what it was possible to do to get their costs right down on a similar scale, and also said he would not mind if municipality competed against municipality in house building.

Damp Walls.

We have received from Messrs. Jenson & Nicholson, Ltd., a pamphlet, entitled "A Manual on the Treatment of Damp Walls." It is issued to assist those engaged in the prevention and cure of damp, and to enable them to select the material for the particular work in hand. The illustrations show, in a concise way, the conditions which may arise from dampness and other causes, and demonstrates the improvements that can be effected by the use of their various preparations. They state that Nepthelene has been specially produced to overcome the alkalinity of cements and plasters. A new wall (whether finished in Portland cement or patent plaster), over which Nepthelene has been applied can, it is claimed, be treated with decorative material with the assurance that the job will be as satisfactory and permanent as if the wall had been an old one. When applied prior to wallpapering, Nepthelene, it is further stated, considerably lengthens the life of the paper and prevents spotting and discolouration, and its action is also to stop efflorescence when paint or distemper is applied. Copies of this useful booklet can be had on application to Messrs. Jenson & Nicholson, Ltd., Goswell Works, Stratford, London, E. 15.

BUILDING OPERATIVES' CONFERENCE

THE National Federation of Building Trade Operatives opened their annual conference recently at Blackpool.

In the course of his presidential address Mr. T. Barron said the difficulties of the hours question would remain with them so long as there was not an attempt by the employers to realise the stern determination of their members not to be pushed back into the bad old days and ways of the past. While they accepted the responsibility of honouring agreements, either on hours or any other matter, they warned the employers that they could not take the present position of the working hours as in any way a permanent solution of the question. They believed that the employers' demand for longer hours was mere prejudice, without any economic warrant behind it; they were confident that in the end good sense would prevail, and that the employers would realise that in an industry calling for hard physical strain and for a great amount of travelling time to get to work, eight hours, with one meal hour, was both an economic and productive day.

Speaking of the men's claim for the guaranteed week, Mr. Barron said they were not asking for something for nothing, and they were aware of the fact that it was only by placing a penalty on the employers that they could hope that any thought would be given to the proper management of work and thus ensure that loss of time would be reduced to a minimum. Another injustice, that of requiring men to provide plant in the nature of expensive tools for the use and profit of employers without any recognition was so obvious that it required no elaboration. They had agreed with the employers to go into these matters, and there could be no permanent peace in the industry until their reasonable and just claims were met.

With regard to the Government housing scheme and the co-operation which had been promised by the employers and the operatives, Mr. Barron said he considered the advantages of the scheme were obvious. Their members would have a measure of security never hitherto enjoyed. Through this scheme, they believed they could gain what the workers had long been striving for, a measure of control in the industry in which they were engaged. It might only in this case be a small measure, but the seed was there, and with careful tending could be brought to full fructification in the future. They had entered into this scheme jointly with their employers, and were prepared to work with them, but they had never sold their freedom of action to deal with this question on their own lines. There had been rumours that the employers were not too willing to work under the scheme. In any case, the operatives were prepared to carry on, and assured the Government that they would carry on with or without the employers' intervention.

Building Trade Apprentices.

The Board of Education has recently issued a circular to local authorities with reference to the agreement concluded between the Minister of Health and the employers and trade unions concerned. This agreement will necessitate the augmentation of bricklayers, plasterers and tilers, and the circular states, in these circumstances the Minister of Health and the Board of Education are anxious to obtain information as to the facilities which can be utilised or provided by local education authorities for giving intensive training to apprentices—*i.e.*, youths normally between 18 and 22 years of age—in building trade subjects.

The proposed course will probably last three or six months, preparatory to entering the industry, but if the authority concerned are of opinion that some alternative course would be better adapted to the circumstances of their area the Minister and the Board will be prepared to consider their proposals.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Fletton, at King's Cross	2 13 3	Best Blue Pressed Staffs.	9 5 0
Do. grooved for plaster	2 15 3	Do. Bullnose ..	9 15 0
Do. Bullnose ..	3 8 3	Blue Wire Cuts	7 5 0

Best Stourbridge Fire brick:—

2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers ..	23 0 0	D'ble Str'tch'rs	31 10 0
		D'ble Headers	28 10 0
		One Side and two Ends ..	32 10 0
Headers	22 10 0	Two Sides and one End	33 10 0
Quoins, Bullnose and 4½ in. Flats	29 10 0	Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	2 1	3 in. per yd. super	2 11
2½ in. "	2 6	4 in. "	3 6

	£ s. d.	
Thames Ballast	10 6	per yard.
Pit Sand	14 9	" "
Thames Sand	15 6	" "
Best Washed Sand	15 6	" "
¾ in. Shingle for Ferro-Concrete	14 0	" "
½ in. "	15 0	" "
¾ in. Broken Brick	10 6	" "
Pan Breeze	7 6	" "

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification Test £2 18 0 to £3 3 6
51/- alongside at Vauxhall in 80-ton lots.

	£ s. d.
Ferrocrete per ton extra on above	0 10 0
Super Cement	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 11 9
Chalk Lime	2 11 9
Best Ground Blue Lias Lime	2 4 6
Hair	17 0 0
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dpt.

STONE.

BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube — s. 2, d. 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube — 2 11½

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube — 4 4
Do. do. delivered on road wagons at above stations, per ft. cube — 4 5
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE.
Delivered at any Goods Station, London.

Small random blocks, up to 10 ft. cube. Per ft. cube	7/-
Random blocks from 10 ft. and over "	17/-
Sawn two sides "	27/-
Sawn three or four sides "	32/-

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station London.

	s. d.
6 in. sawn two sides landings to sizes (under 80 ft. super.) Per Ft. Super	5 6
6 in. rubbed two sides, ditto "	6 0
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in. ditto, ditto "	1 4

HARD YORK—
Delivered at any Goods Station London.

Scappled random blocks Per Ft. Cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super.) Per Ft. Super	5 1½
6 in. rubbed two sides ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto ditto "	2 1½
2 in. self-faced random flags Per Yard Super	9 0

ARTIFICIAL STONE.

Delivered in London Area in full van loads, per ft. cube:—Plain, 6s. 6d.; Moulded, 7s. 9d.; Cills, 8s. 3d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£34 0	3 × 6	£24 10
4 × 9	32 0	3 × 11	30 0
4 × 8	28 0	2 × 11	30 0
4 × 7	26 0	3 × 9	26 0
3 × 8	25 10	2½ × 9	27 0
3 × 7	25 10	3 × 4½	25 0
2½ × 7	24 0	3 × 4	24 10

PLANED BOARDS.

1 × 11	£37 10	1 × 9	£36 0

WOOD (*Continued*).

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	21/-	1¼	33/6
⅞	24/-	1½	37/6
1	26/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.	Inches	per sq.
1	26/6	¾	17/6
1¼	33/6	⅞	21/-
1½	38/-	1	26/-

MATCHINGS (BEST).

BATTENS

Inches	s. d. per 100 ft.
¾ × 2	2 6

SAWN LATHS.

Per bundle		0	2 8
Dry Wainscot Oak, per ft. super, as inch	0 2 0 to	0 2	6
½ in. do.	0 1 6 to	0 2	0
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 1 9 to	0 2	6
Cuba Mahogany	0 3 0 to	0 3	6
Teak (Rangoon, Moulmein or Java), per ft. cube	0 14 0 to	—	
American Whitewood planks, per ft. cube	0 12 0 to	0 14	0
Best Scotch Glue, per cwt.	4 10 0 to	—	
Liquid Glue, per cwt.	4 7 0 to	5 10	0

SLATES.

1st quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station.
Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 12 6
Ditto hand made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) Hand made	0 9 6
Machine made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	13 10 0
Plain Compound Girders	15 10 0
Stanchions	17 10 0
In Roof Work	20 10 0

MILD STEEL ROUNDS.
To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	16 10 0	⅝ in. to ⅞ in.	13 10 0
⅜ in.	14 10 0	1 in. to 2½ in.	13 0 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes. All sizes.	Fittings. ½"&up. inclusive.	Fittings. ¼"to¾" inclusive.	Flanges ½"&up. inclusive.	Flanges ¼"to¾" inclusive.
Black Gas	50 %	50 %	47½ %	60 %	57½ %
Blue Water	45 %	45 %	42½ %	55 %	52½ %
Red Steam	40 %	40 %	37½ %	50 %	47½ %
Galv'd Gas	35 %	40 %	37½ %	50 %	47½ %
" Water	28½ %	35 %	32½ %	45 %	42½ %
" Steam	22½ %	30 %	27½ %	40 %	37½ %

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/1½	11d.	3½d.
3½ in.	1/2½	1/0½	3½d.
4 in.	1/4	1/1½	3½d.
4½ in.	1/5½	1/4	4d.
5 in.	1/7½	1/5½	5d.

O.G. GUTTERS.

3 in.	1/6½	1/2½	3½d.
3½ in.	1/8½	1/2½	3½d.
4 in.	1/7½	1/4	3½d.
4½ in.	1/9½	1/6½	4d.
5 in.	2/1½	1/9	5d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/7½	1/1½	1/8
2½ in. "	1/9½	1/4	2/0½
3 in. "	2/1½	1/8	2/5½
3½ in. "	2/6½	1/11½	2/10½
4 in. "	2/11½	2/4½	3/5½

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	3 0½	2 2½	2 8
2½ in. "	3 6½	2 5½	3 3½
3 in. "	4 2½	2 8	4 0½
3½ in. "	4 7	3 3½	4 8½
4 in. "	5 1	3 9½	5 5

L.C.C. COATED DRAIN PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
3 in. per yd. in 9ft. lengths	4 9	5 8	8 10
4 in. " "	6 3	8 8	11 4
5 in. " "	7 6	11 6	18 2
6 in. " "	8 10	14 4	23 5

Per ton in London.

	£ s. d.		£ s. d.
IRON—Common Bars	13 10 0	to	14 10 8
Staffordshire Crown Bars—good merchant quality	14 10 0	—	15 10 0
Staffordshire "Marked Bars"	17 0 0	..	18 0 0
Mild Steel Bars	12 10 0	..	13 10 0

METALS (*Continued*).

	£ s. d.		£ s. d.
Steel Bars, Ferro-Concrete quality, basis price	13 0 0	..	14 0 0
Hoop iron, basis price	16 10 0	..	17 10 0
Galvanised	31 0 0	..	32 0 0

Soft Steel Sheets, Black—

Ordinary sizes to 20 g.	15 0 0	..	16 0 0
" " 24 g.	16 0 0	..	17 0 0
" " 26 g.	18 0 0	..	19 0 0

Sheets Flat Best Soft Steel, C.R. & C.A. quality—

Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	22 10 0	..	23 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	24 10 0	..	26 10 0

Flat and Galvanised Corrugated Sheets—

Ordinary sizes, 6 ft. to 9 ft. to 20 g.	21 0 0	..	22 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	23 10 0	..	24 10 0

Sheets Galvanised Flat, Best quality—

Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker ..	23 10 0	..	24 10 0
Best Soft Steel Sheets, 22 g. and 24 g. ..	24 10 0	..	26 10 0
Best Soft Steel Sheets, 26 g.	26 0 0	..	27 0 0
Cut Nails, 3in. to 6 in.	20 10 0	..	22 0 0

(under 3in. usual trade extras.)

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

LEAD, &c.

(Delivered in London.)

	£ s. d.
LEAD—Sheet. English, 4 lb. and up	44 0 0
Pipe in coils	44 10 0
Soil Pipe	47 10 0
Compo pipe	50 10 0

NOTE—Country delivery, 30s. per ton extra; lots under 3 cwt., 2s. per cwt. extra and over 3cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills .... per ton	31 0 0	..	—
Do., ex country, carriage forward .... per ton	32 0 0	..	—

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	163/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2in.
7/6	11/6	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps ..	33/-	41/-	56/-	101/- per doz
8 lbs. S. traps ..	35/-	45/-	66/-	126/- "

COPPER—	£ s. d.	
Strong Sheet .... per lb.	0 2 3	.. —
Thin " .... "	0 2 4	.. —
Copper nails .... "	0 2 3	.. —
Copper wire .... "	0 2 4	.. —
TIN—English Ingots "	0 2 6	.. —
SOLDER—Plumbers' "	0 1 2	.. —
Tinmen's .... "	0 1 4	.. —
Blowpipe .... "	0 1 5	.. —

PAINTS, &c.

	£ s. d
Raw Linseed Oil, in pipes .... per gallon	0 3 9
" " " in barrels .... "	0 3 11
" " " in drums .... "	0 4 2
Boiled " " in barrels .... "	0 4 2
" " " in drums .... "	0 4 5
Turpentine in barrels .... "	0 5 11
" in drums (10 gall.) .. "	0 6 2
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	57 0 0
GENUINE WHITE LEAD PAINT—"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Spedol" and other best brands (In 14 lb. tins) not less than 5 cwt. lots per ton delivered	80 5 0
Red Lead, Dry (packages extra) .... per ton	52 0 0
Best Linseed Oil Putty .... per cwt.	0 16
Filocol .... per cwt.	0 15 6
Size. XD Quality .... /kn.	0 3 6

[*Continued on page 499.*]

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PROPOSED NEW BUILDINGS & OTHER WORKS *

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; and B.E. for Board of Education.

ANNFIELD PLAIN.—The U.D.C. has approved plans submitted by Messrs. Lee & Dunn for the erection of a house on the Ritson Estate, Greencroft.—The M.T. has approved expenditure by the U.D.C. upon the roads at a total of £3,615.

ASHBY-DE-LA-ZOUCH.—Plans passed by the U.D.C. Mr. Yates, bungalow, on Nottingham road.

AYLESBURY.—The Council have decided to reserve two sites on their housing estate, one for the erection of an infants' school and another for the erection of a building for central day Continuation and Technical schools. The surveyor has submitted plans of schemes for modern sewage disposal, and has been requested to prepare estimates of the cost of each scheme.

BATH.—Plans approved by the T.C.: Flats, 12 and 13, Claverton-street; extensions at Dorchester-street; villas, Rosslyn-road; two lock-up shops, Dorchester-street; new line of sewer, Henrietta-road; bungalow, Charlcombe-lane; lock-up shop, 4, Dorchester-street; bungalow, Yeomead Park: bungalow, First-avenue; rebuilding of factory, Harrington-place; four houses, Fox Hill-lane; house, 11, Fairfield-road; bungalow, Padleigh-grove, Padleigh Hill; three shops and dwellings, Bradford-road, Combe Down; science buildings, Kingswood Schools; house, Oolite-road; lecture hall and drill room, Pulteney-mews.

BEDFORD.—The T.C. proposes to purchase riverside land at a cost of £1,600 for the construction of a promenade. A site at the Elstow housing estate has been scheduled for the purposes of a new elementary school. A band stand is to be erected in the Square at a cost of about £300. Thirty acres at £100 an acre are proposed to be acquired to provide for future extensions to the filters and service reservoirs at the waterworks. Plans passed: Bungalow, Park-road, for Mr. W. Lucas; house, St. Alban-road, for Mr. H. Lewis.

BELFAST.—Plans passed by T.C.:—Four villas, in a new avenue, off Antrim-road, for Mr. Robert McIntyre, architect, Mr. S. J. McAvoy; villa on Ballysillon-road, for Mr. W. Murray, architect, Messrs. Munce & Kennedy; villa in Myrtlefield-Park, for Mr. A. McDowell, architect, Mr. T. A. Eagar; two villas on Sandown Park, for Mr. W. Evans; two villas on Knockroad, for Messrs. R. J. & T. Kerr, architect, Mr. Hugh Gault; four villas on Bloomfield-road, for Mr. James Smart, builder; villa in Ormiston-parade, for Mr. R. K. Porter; two villas in Burmah-street, for Messrs. Cairns Bros., architect, Mr. D. W. Boyd; villa in Hillsborough-drive, for Mr. W. Barton, architect, Mr. R. Barton; shop and house on Falls-road, for Mr. P Moran, architects, Messrs. E. & J. Byrne; 10 villas in Glandore-street, for Mr. Hugh Turtle, architect, Mr. Jackson G. Smyth; two villas in Downview-avenue, for Messrs. R. Seeds & Sons, architect, Mr. J. Seeds.

BLYTH.—Plans passed: Three houses, Bohemia-terrace, for Messrs. T. S. Henley; war memorial, Cowpen Village.—Negotiations are proceeding with the Bebside Coal Co. for land for a recreation ground.—The T.C. adopted a scheme for the construction of a promenade some 500 yds. in length at an estimated cost of £10,000. The Town Clerk was instructed to apply to the Unemployment Grants Committee for assistance, and also to the M.H. for sanction to borrow the necessary money.

BRADFORD.—The Bradford Third Equitable Building Society are converting shop premises in Tyrrel and Market-streets into offices. The architects are Messrs. James Young & Co., Bradford.

BRIDGEND.—Plans passed by U.D.C.: House, on Mr. E. E. Clarke's Estate, for Mr. Ayshford; bungalow, at the White Rock, for S. Simmonds; bungalow at Jenkin's-street, for A. Lenton; bungalow each at Jenkin's-street, for Messrs. W. Rivers and C. M. Taylor (Cefn Glas).—At a meeting of the subscribers of the Bridgend Cottage Hospital it was agreed that a new hospital be provided at a cost of £25,000.

BRIDLINGTON.—The E.C. are pressing for a new school at Hilderthorpe. It is suggested that the land belonging to the Savage Trustees, situated between Hilderthorpe-road and New Bridlington-road would make a suitable site. There are to be erected in the near future in the East Ward two intermediate (higher) schools for boys and girls.

BRIGHTON.—Plans passed by T.C.:—Rebuilding shop, corner of Oxford-place and Ditchling-road, Brown & Co., for A. J. S. Russell; conversion into flats 27, Albert-road, J. Barnes & Sons, for P. D. Goddard; house, Retreat Estate, Dyke-road, for E. Howarth; conversion into flats, "The Old Cottage," North-road, Preston, W. T. Cripps, for Mrs. Thomas-Stanford; improvements, 5 and 6, Regent-street, A. Barnes, for Webb & Foulger, Ltd.; three houses and two garages, Lowther-road, F. A. Crouch, for J. Lewis; four houses, Mafeking-road, Ayling & Son, for G. Ayling; house, Hangleton-road, A. E. Porter, for W. Poiney; premises, 86, Western-road, Field & Cox, for Westminster Bank, Ltd.; conversion of upper story into flat, 213, Preston-road, A. E. H. Eldridge, for Smithers & Sons, Ltd.; shop and house, Franklin-road, A. Carden, for R. Mitchell; 10 shops and houses, Ditchling-road, W. A. Parker, for A. Hurst; 19 houses, Mafeking-road, J. Ayling, for G. Ayling.

BROMSGROVE.—The U.D.C. has decided to widen Stoke-road, at a cost of £770.

CAMBRIDGE.—Plans passed by T.C.:—House, Milton-road, for C. E. B. King; 18 cottages, Halingway, for W. Saint, Ltd.; house, Huntingdon-road, for J. H. Phillips; extension to school of Agriculture, Tennis Court-road, for the Chancellor, Master and Scholars of the University of Cambridge; house, Cam-road, for E. E. Marshall, Mill-road; house, Milton-road, for W. Northfield.

CAPE TOWN.—The T.C. is to embark upon a scheme for developing the Rockland reclaimed area at Sea Point, and voted £5,000 for the purpose.—A scheme is being considered for converting the Round House Estate into a public park.

CARDIGAN.—The Cardigan and District Hospital Governors have in consideration an improvement and repairs of buildings scheme, estimated to cost £1,750.

CARMARTHENSHIRE.—The County E.C. is to lay-out playing fields for the Llandilo County Schools, and has obtained a site on which to erect a council school at Llandebie.—The Llanelly B.C. is considering the construction of a new main road to join the Tyissa district to the main Swansea–Lougher-road.

CHEPSTOW.—The B.G. is to extend the accommodation for vagrants at the workhouse.

COLWYN BAY.—The U.D.C. has instructed its Surveyor to draw up a scheme for the erection of a new pavilion to accommodate 1,000 persons on the west side of the pier entrance; also to present a plan for a covered way from the pier gates to the existing pavilion and for the provision of a bandstand at the pierhead.

COVENTRY.—The E.C. is submitting to the T.C. for approval, plans for an extension of Barr's Hill school; the cost is estimated at £4,979.

CUTNALL GREEN.—The Bradford Bridge, near Cutnall Green, is to be repaired by the Worcester C.C., at an estimated cost of £700.

DARLINGTON.—The Darlington Wesleyan Bondgate Circuit approved the suggested scheme for the erection of new Sunday schools and an institute in Bondgate, at an estimated cost of £10,000.

DIPTON.—Messrs. Bowes & Partners are proposing to erect a further batch of houses for their employees in Plunkett-road.

DUDLEY.—The Castle View House, in Claughton-road is to be reconstructed and adapted into a convalescent home.

DUNVANT.—The Glamorgan E.C. proposes the erection of an elementary school.

DURHAM.—The R.D.C. has resolved to seek borrowing powers for the construction of a new road from Haswell to Sherburn.

EASINGTON.—The B.G. has decided to carry out alterations and additions at the Institution at an approximate cost of £300.

EAST BARNET.—Plans have been passed by the U.D.C. for two houses in Park-road for the British Land Co., nine garages at Underhill for Messrs. Newton & Sons; conversion of Solway House, East Barnet-road, into three self-contained flats for Mr. W. S. Jackson.

ESHER.—Road widenings in the Esher and Dittons district are to cost £13,850.

EVESHAM.—The T.C. has decided to support the scheme for the proposed bridge across the River Avon opposite the Cheltenham-road, on condition that the cost to the Council does not exceed £7,000. In the circumstances, the Worcester C.C. has authorised the County Surveyor to prepare a scheme and estimate.

FALKIRK.—A new scheme for the erection of 282 houses, to be built on sites at Merchiston, Thornhill, Carmuirs, and the Stirling-road, is being prepared for the T.C. Proposed road works include widening Union-road, Camelon, at an estimated cost of £1,400; widening Merchiston-road at an estimated cost of £1,550; and widening Thornhill-road at an estimated cost of £1,250.

FALMOUTH.—The T.C. is arranging to rent Pendennis Castle from the War Office for housing purposes. The B.S. is to prepare plans for laying-out land adjoining the cemetery.

FAVERSHAM.—Plans passed by R.D.C.: Mr. P. E. Wildash, two bungalows at Loyterton, for Mr. Potter Oyler; Messrs. Whiting Bros., two cottages on Provender Farm, Norton, for Mr. W. Colthup; Messrs. S. & G. George, two cottages at Buckland, for Mr. A. L. Mercer.

GLASGOW.—The Corporation propose to purchase the Glasgow Harbour Tunnel and the property on both sides for £100,000, the object in view being the erection of a bridge over the Clyde between Finnieston and Mavisbank.

GREAT HOUGHTON.—Plans have been prepared for 150 houses, and negotiations are being entered for the purchase of 14½ acre field in Rotherham-road. Another scheme for the erection of 52 non-parlour type is being prepared.

GRIMSBY.—The T.C. proposes to carry out works of sewerage at West Marsh, at a cost of about £3,000.

HALESOWEN.—The District E.C. is considering the erection of a Council school for the districts of Hill and Cakemore.

HALIFAX.—The Co-operative Industrial Society, Ltd., have acquired the St. Paul's Church Schools, and it is proposed to erect new co-operative stores upon the site.

HAMPTON (WORCESTERSHIRE).—The E.C. is considering the purchase of a site at Great and Little Hampton for a Council school.

HASTINGS.—The Water Committee of the T.C. proposes the purchase of land at Battle and Sedlescombe, totalling about 70 acres, for waterworsk purposes.—The Westminster Bank, Ltd., has acquired Nos. 27, Havelock-road and 1, 2 & 3, Bank-buildings for demolition and rebuilding.—Loans as follows have been sanctioned: £1,400 for road construction on Eversley housing site; £795 for sewers; £10,200 for foundations, retaining walls and drainage of the proposed White Rock Pavilion; £8,590 for eighteen additional houses at Eversley housing site.

HAYFIELD.—The M.H. has approved the R.D.C.'s scheme for conveying water from Harrymoor Kinder to supply the village of Mellor, which is five miles distant; the estimated cost is £14,300.

HEANOR.—Proposals are to be submitted by the U.D.C. to the M.H. for the erection of 115 houses forthwith.

HESTON AND ISLEWORTH.—Plans passed by U.D.C.:—P. Chase Gardener & Co., bungalow, Lampton-road, and seven houses, Bulstrode-avenue; R. Emmett, house, Jersey-road; P. H. Watkins, two houses, Martindale-road; D. A. de C. Bellamy, bungalow, Sutton-lane; Building Enterprises, Ltd., 32 houses and four bungalows, Lime Tree-road; J. Vincent, two houses, Bland's Farm; E. Williams, house, Park-road; J. Montgomery, four houses, Maswell Park; Building Enterprises, Ltd., bungalow, Church-road; E. A. Charlton, two houses, Elmsworth-avenue; P. Chase Gardener & Co., two houses, Whitton-road; E. W. Button, four houses, Martindale-road; Messrs. Lovatt & Co., house, Alexandra-road; E. Carter, bungalow, King's-avenue; Jones & Co., 10 houses, Wood-lane; Roper, Son & Chapman, bungalow, Martindale-road; J. P. Power, bungalow, Harvard-road; F. J. Pateman, two houses, Rollit-crescent; Building Enterprises, Ltd., two houses, Jersey-road; P. F. E. Carter, two houses, Cambridge-road; W. Ryde, bungalow, St. John's-road; H. Allen house, St. Mary's-crescent; P. Chase Gardener & Co., eight houses, King's-avenue; H. Nightengale, bungalow, Martindale-road; T. H. Isted, two houses, Osterley-crescent; S. L. M. Avery, five houses, Clare-road; L. Fowler, bungalow, Argyle-avenue; Silwood Construction Co., Ltd., 32 houses, Grenville-avenue; R. Emmett & Son, house, Hibernia-road.

HUNSWORTH.—Plans passed: Conversion of old Mission Room into a house, for Mr. J. Gibson; houses at Moorhouse-lane, for Messrs. G. R. & R. H. Verity.

JARROW.—The T.C. has resolved to apply for permission to borrow £6,600 for the erection of 20 houses on its housing estate; and, further, to borrow £4,160 for the cost of the roads and sewers.

JEDBURGH.—T.C. has approved plans for rebuilding Station bridge, Townfoot bridge, and Inchbonny bridge at estimated costs respectively of £6,940, £6,550 and £6,330. The Jedburgh District Committee has already approved of the reconstruction of two other bridges under its sole control, at a total probable cost of about £30,000.

KEIGHLEY.—Sanction has been received by the T.C. to the clearance of the Westgate slum area. The net cost will be about £98,000. Accommodation will have to be found for 536 persons.

KIDDERMINSTER.—Plan passed: New slipper factory at Franche, for Mr. H. W. Buckland.

LANGLEY.—Police buildings are to be erected by the Worcester Standing Joint Committee on a site presented by Mr. J. Darby.

LAUNCESTON.—The T.C. has decided to erect 10 houses at a cost of £517 7s. per house, including site. The M.H. has conditionally approved.

LIVERPOOL.—An expenditure of £170,000 is contemplated by the Mersey Docks and Harbour Board on the construction of the north wall of the new Gladstone Dock. The wall will provide a loading-out berth about 600 ft. long.

LONDON (HACKNEY).—Plans passed by B.C.:—West & Brooks, Leyton, Ltd., two houses, Clapton Common; O. Abbott, factory premises, 45, Wallis-road.

LONDON (ISLINGTON).—A revised scheme has been prepared for the erection of 26 four-roomed flats and eight three-roomed flats at Holly Park, at a cost of £26,235.

LONDON (LEWISHAM).—Plans passed by B.C.:—T. A. Boughton, four houses, Newquay-road; Alfred Marsh, seven houses, Shell-road; G. P. Harding, five houses, Hither Green-road; H. D. Bennett, two houses, Baring-road; Eaglen Bros., six houses, Burnt Ash-hill; J. Watt, building, 8, Bellingham-terrace, Bromley-road; Arthur Miller, three houses, Stanstead-road; J. G. Stephenson, 100 houses on Downham Estate, for London County Council; Dibben & Co., Ltd., six houses, Warren-avenue; Kenneth T. Lomas, 145 houses on Downham Estate, for London County Council; W. Reynolds & Co., two houses and garages, Coniston-road; A. J. Glock, 17 houses, Ewhurst-road.

LONDON (SHOREDITCH).—The B.C. has authorised the exterior repair of houses on the Stonebridge Estate, at a cost of £5,000.

LONDON (STOKE NEWINGTON).—The L.C.C. intimates its intention to erect an elementary school for 640 children and capable of enlargement by 250 places.

LOWESTOFT.—Plans passed by T.C.: House, Beccles-road, for Mr. W. Parker; bungalow, Hall-road, for Mr. A. Spashett; bungalow, London-road, for Capt. Harvey; house, Yarmouth-road, for Mrs. L. Knight; house, Kirkley-road, for Mr. W. Bliss; shop, Milton-road, for Mrs. A. Houghton; bungalow, Yarmouth-road, for Mr. W. J. Croft; pasteurisation dairy, Parade-road, for Messrs. Overland & Son. The B.S. reports further damage to the beach through rough seas.

LUTON.—The sewer from Dunstable-road is to be extended, at a cost of £1,000, towards the bowling green area, where Mr. A. W. Oakley, builder, proposes to erect ten houses.—The Council has had revised plans for the covered market and proposed shops in Cheapside and Market-street, and decided to invite tenders forthwith.

LYTHAM ST. ANNES.—The improvement of the Ashton Marine Park at Fairhaven is being considered by the T.C. The proposals include increasing the lake to three times its present size, the erection of a bandstand, &c. The improvements are expected to cost about £16,000. Another project is the erection

* See also our List of Contracts, Competitions, etc.

of a new Town Hall. There are no definite plans, but £100,000 is mentioned as the probable cost.

MALVERN.—Worcester County E.C. has asked a sub-committee to report as to the need for a secondary school.

MIDDLESBROUGH.—The Housing Committee has decided to erect four shops on the Marton-grove housing estate at a cost of £900 each.

MONMOUTHSHIRE.—The Nantyglo and Blaina U.D.C. has made tentative arrangements with adjoining areas councils for the joint erection of an isolation hospital.—The Abersychan U.D.C. is to renew the Cwmavon river and railway bridges, and to improve Hospital-road.—A new council school to accommodate 650 children is to be built at Twmpath, Pontypool.

MYTHOLMYROYD.—The M.H. has held an inquiry into the application of the U.D.C. for sanction to borrow £1,000 for alterations to the Council offices at Scarbottom.

NELSON (GLAM.).—Five and a-half acres of land have been acquired by the Nelson Welfare Association for conversion to recreation purposes.

NEWBURY.—Plans passed: House, Andover-lane, for Mr. L. Simmons; two houses, Enborne-place, for Mr. S. E. Rawlings; house, Boundary-road, for Miss Watts; house, Oxford-road, for Mr. M. P. Coombs; two houses, Queen's-road, for Messrs. Slater & Griffin; house, Buckingham-road, for Mr. A. J. Chivers; conversion of West Mills into bacon factory, for Mr. J. Tifnail; the Gas Committee proposes the erection of new buildings.

NORHAM.—Plans passed by the R.D.C.: Bungalow at Horncliffe, for Miss Carr, and bungalow at Scremerston, to be used as a sub-post office.

NORTHALLERTON.—The U.D.C. has inaugurated an attractive house purchase scheme, which at present provides for the erection of 20 houses in pairs at Vicar's Croft.

NORWICH.—The City Council has decided that a further instalment of 100 houses are to be built.

OLDBURY.—Preliminary plans for secondary school buildings were submitted to the B.E., which suggested certain alterations.

PAISLEY.—Permission has been granted by the Dean of Guild Court to Messrs. R. Cochran & Sons, Ltd., warehousemen, 10–12, Smithhills, to erect in Gauge-street a substantial addition to their establishment. A feature of the new buildings will be an arcade. Sherwood U.F. Church have been granted permission to erect new halls in Glasgow-road.

PEMBROKESHIRE.—Plans passed by the Goodwick U.D.C.: Slaughterhouse, for Mr. J. Griffiths; house, for Mr. G. C. Evans, in Main-street.—The Haverfordwest R.D.C. is to spend, approximately, £6,000 in improving the northern district roads, and £1,875 on improving the main Black Bridge–Neyland road.

PERSHORE.—The Worcester C.C. proposes to construct an additional culvert, at a cost of about £600.—The construction of a new bridge, at a cost of £4,600, is proposed.—A special subjects centre is to be erected on the site of the infant's school, at a cost of £500.

PICKERING.—Plans passed by the R.D.C.: Two cottages, at Brompton, for Sir Kenelm Cayley.

PRESTON.—Plans passed by T.C.:—R. O. Harris, for H. Archer, house and shop, Deepdale-road; J. Nightingale, three houses, Addison-road; H. Heaton, for T Varley, house and garage, Addison-road; Ogden & MacGregor, for G. Vickers, house and shop, Trafford-street; A. H. Duckworth, for Mrs. Clitheroe, bungalow Ribbleton-avenue; Swarbrick & Gaunt, two bungalows, Inkerman-street; B. Crabtree, for Spencer & Abbott, 16 houses, Tiber-street, and eight houses, Frenchwood-avenue; F. Mallott, for Horrockses, Crewdson & Co. Ltd., conveniences, Primrose Hill; J. W. Grange, two houses, Lytham-road.

RHYL.—The U.D.C. has decided to apply to the M.H. for sanction to erect a further fifty houses.

RICHMOND (SURREY).—Plans passed by the T.C.: Mr. H. P. Carter, two houses, King's-road; Messrs. F. Taperell & Haase; Mr. A. H. Middleton, four houses, Taylor-avenue; Mr. H. Howes, house, Taylor-avenue; and Messrs. Legassick & Co., house, Taylor-avenue.

ROCHESTER.—Plans passed by the T.C.: House, Dark-lane, Mr. F. W. Dyster, for Mr. A. W. Hipkiss; bungalow, Mill-road, for Mr. F. J. Luff, for Mr. F. G. Luff; bungalow, Dark-lane, for Mr. J. Burns; staff quarters, St. Bartholomew's Hospital, Mr. T. H. McDermott, for the Trustees of Hospital; bungalow, Cornwall-road, Mr. F. Clarke, for Mrs. H. Clarke.

ROMFORD.—Plans for 30 bungalows to be built at Harold Wood, have been passed by the R.D.C.

SALTBURN.—The U.D.C. has decided to negotiate with the M.H. for a loan of £1,212 for housing purposes.

SEAHAM HARBOUR.—The U.D.C. has approved of plans submitted by Mr. J. W. Claxton, on behalf of Mr. J. S. Ankers, for the erection of two houses and shops at the junction of Princess-road and Dawdon Crossing.

SHEFFIELD.—The Joint Hospital Council has purchased Norton Hall and grounds, comprising 120 acres; it is proposed to erect a new children's hospital in the grounds. The hall is to be converted into an auxiliary Institute.—The Corporation propose to erect a new abattoir at a cost of £100,000; also to construct new baths at Hillsborough, at an estimated cost of £30,914.

SHIPSTON-ON-STOUR.—The P.C. has purchased two acres of land for a burial ground.

SKELTON AND BROTTON.—The U.D.C. is entering into an agreement with the Saltburn U.D.C. for the construction of a new outfall sewer at Old Saltburn in connection with a new sewerage scheme.

SMETHWICK.—Plans for the erection of a new secondary school have been approved by the E.C., at an estimated cost of £40,000. The building will accommodate about 330 girls.

SOUTH SHIELDS.—The Governors of the School of Art have placed before the B.C. a scheme for the erection of a new art school for the town.

STANLEY.—The U.D.C. has approved plans submitted by the Stanley Liberal Association for the erection of a new building at Clifford-road.

STOCKTON.—The T.C. has decided to construct a bridge or culvert over Lustrum Beck, at an estimate of £8,674 ——The U.D.C. has instructed the M.O. to work in conjunction with the B.E. for the consideration of a suitable site for a new and modern small-pox Hospital. The B.E. has also been requested to prepare plans, and an estimate of the cost, for an additional observation block; an additional block to accommodate 16 beds, and extra staff accommodation at the Isolation Hospital.—Plans passed by the T.C.: Two bungalows at Barnard-street, for H. Lowry. The R.D.C. has approved plans for the erection of a detached bungalow at Preston, for R. Williamson, Stockton.

STOKESLEY.—Plans passed by the R.D.C.: House at Kirby, for C. W. Benson; bungalow at Swainby, for G. H. Clarke; bungalow, Yarm, for Mrs. Bell, and bungalow at Tame Bridge, Stokesley, for F. Brown.

SWANSEA.—The T.C. has passed plans for the following: House, Prospect-place, Sketty, for Miss M. E. Rowlands; house, Prospect-place, Sketty, for Mr. F. Tucker; two houses, Gower-road, for Mr. W. G. Connick; house, Middle-road, for Mr. E. Roberts; bungalow, Bayswater-road, for Mr. D. A. Williams; bungalow, Carmarthen-road, Fforestfach, for Mrs. M. Williams; bungalow, Bayswater-road, for Mr. A. E. Fursland; three houses, Peter-street, for Mr. J. O. Watkins; house, Summerland-lane, Newton, for Mr. I. Rosser; bungalow, Pentregethin-road, for Mr. G. Davey; four houses, Manor-road, Manselton, for Messrs. Thomas Bros.; house, Tycoch Estate, for Mr. L. A. Jenkins; house, Tycoch Estate, for Mr. F. G. Harries; house, Middle-road, for Mr. E. Thomas; two houses, Pentregethin-road, for Messrs. Harris & Macleod; bungalow, Tycoch Estate, for Mr. F. C. Butler. The Council has arranged to grant loans under the S.D.A.A. in respect of houses to be erected as follows: W. R. Crosby, St. John's-road, Manselton; Francis R. Miller, Tycoch Estate, Sketty; T. E. Jones, Higher West Cross-lane West Cross; Herbert Chown, fronting Overland-road, at top of Woodville-road, Mumbles; Rev. David L. Davies, Armine-avenue, Gower-road, Killay; Frederick C. Butler, Tycoch Estate, Sketty; Mrs. Clara E. Grove, Mumbles-road, near Blackpill; Mrs. A. L. L. Jones, Mumbles-road, near Blackpill; William D. Hughes, near St. Peter's Church, Caswell-road, Newton, Mumbles; John William Jenkins, corner of Main-road and Gwernllwyn-chwith-road, Peniel Green; Stanley Rutter, Higher West Cross-lane; W. S. Williams, St. John's-road, Manselton; Nicol Robertson, Tycoch-road, Sketty; Phillip Phillips, road leading to Tycoch Farm, Mynydd Cadle; Mrs. Elizabeth Surridge, Long Oaks-avenue, Uplands, Swansea; Arthur D. Gugan, Hendrefollan-road, Sketty; Leonard A. Jenkins, Tycoch Estate, Sketty; M. C. Fry, Murton Cross, Blackpill; Davin John Evans, Tycoch Estate, Sketty; Mrs. G. M. Griffiths, Tycoch Estate, Sketty; Frederick G. Harris Tycoch-road, Sketty.

SWINTON AND PENDLEBURY.—The Surveyor has been instructed to deepen the storm overflow drain in Worsley-road, to relieve the flow of sewage. A sub-committee is to report as to the provision of a convenience for ladies at the Moorside Recreation Ground. The Cromwell-road schoolyard is to be paved at a cost of £530.

TROWBRIDGE.—Plans passed by T.C.:—Villas, Frome-road, for S. H. Culverhouse and J. Smith.

TRURO.—Plans have been passed for a Town Hall, at an estimated cost of £9,000.

WEST DEAN.—The R.D.C. has been considering the question of the water supply. The scheme is a large one embracing about twenty parishes. The Council have obtained grants from the Unemployment Grants Committee and Office of Works. Messrs. W. H. Radford & Son, engineers of Nottingham, are to send the detailed plans to the M.H. The estimate is £45,000.

WESTHAMPNETT.—R.D.C. has received sanction to make grants in respect of 50 houses.

WEYMOUTH.—Plans passed by T.C.: S. J. Board & Son, for Mrs. Penney, detached villa, Burcleaves; Messrs. Jenkins, Hitt and Grant, Ltd., for Mr. H. F. C. Jenkins, bungalow, Bent-path-avenue; Messrs. S. Jackson & Son, for Mr. G. Plumpton Smith, villa, Alexandra-road; Mr. K. Openshaw, pair of semi-detached bungalows, Southlands-road; Mr. F. Greenaway, for Mr. F. Cater, villa, Alexandra-road; Messrs. Jesty & Baker, house, Clearmount-road.

WILLESDEN.—A scheme is to be prepared for the widening of Kilburn Bridge. A convenience is to be erected at Craven Park Junction. Tenders are to be obtained for the provision of mess room accommodation for hospital motor ambulance drivers.—Plans passed by the U.D.C.:—House, 7, Dollis Hill-lane, by Mr. F. Osler, for Dr. T. P. Nunn; 14 semi-detached houses, Oxgate-gardens and Edgware-road, for Mr. F. W. Brealy; six houses, Hanover-road, Kensal Rise, by Mr. H. Shaw, for Mr. F. Hilborn; new factory premises, Neasden-lane, Neasden, by Mr. S. A. S. Yeo, for The Royal Sovereign Pencil Co., Ltd.; twelve houses, Mount Pleasant-road, Kensal Rise, for Mr. C. W. B. Simmonds.

WIMBLEDON.—Plans passed by B.C.:—A. M. L. McKay, house, Copse Hill; Limpus & Son, house, Lauriston-road; W. H. Whitehead & Co., house, corner of Montana and Langham-roads; J. Browne, four houses, Albany-road; W. W. Gibbings, house, Wimbledon Hill; H. Coombs & Sons, two houses, Devas-road; W. R. Dibben, house, Copse Hill; H. Jeffery, Spiritualistic Church, Hartfield-road.

WORCESTER.—The Severn Commissioners have decided to erect another electric power station at Ironbridge.

FIRES.

KILMEADON (CO. WATERFORD).—Extensive flour mills belonging to Mr. J. O'Brien, of Waterford, have been destroyed by fire. The damage is estimated at £30,000.

SALISBURY.—Park Mills, Salisbury, a hemp and jute factory was destroyed by fire recently. The damage is estimated at several thousand pounds.

PATENTS

APPLICATIONS PUBLISHED.*

212,800.—J. W. Baker: Casement stays.

212,822.—W. Wilkinson: Packing-cases.

212,828.—E. J. Owen: Building construction.

212,855.—J. H. Smith: Window constructions.

216,951.—J. Broadfoot & Sons, Ltd., and J. G. Robertson: Cement and filling material.

216,952.—J. Broadfoot & Sons, Ltd., and J. G. Robertson: Plastic material for the production of moulded articles.

216,977.—R. Thompson: Dwelling houses.

217,026.—J. Broadfoot & Sons, Ltd., and J. G. Robertson: Facing for insulating-slabs for use in refrigerating-chambers.

217,027.—J. Broadfoot & Sons, Ltd., and J. G. Robertson: Insulating-slab for use in refrigerating chambers.

217,033.—A. E. White (Bassick Co.): Casters.

217,034.—G. W. Kemp and W. Lawrence & Co., Ltd.: Chairs.

217,037.—H. R. Higgins: Easy chairs and settees.

217,038.—P. H. Bibby and A. G. Davis: Packing-case bolts.

217,057.—C. M. A. Bedson: Furniture castors.

217,082.—A. Lees: Pavement lights.

217,087.—O. H. Strubb: Bricks or building-blocks for toy buildings and instructional purposes.

217,095.—Holzveredelung Ges. and H. R. Trenkler: Process for hardening wood.

217,145.—Nettlefold & Sons, Ltd., and C. A. Ely: Door closers and checks.

217,146.—Nettlefold & Sons, Ltd., and C. A. Ely: Door closer and check.

217,151.—D. Palmer-Jones and Scaffolding (Great Britain), Ltd.: Scaffolding.

217,258.—J. F. Taylor and W. J. Seeley: Hinged brackets.

217,266.—R. Peale, sen., R. Peale and R. Peale, jun.: Device for breaking up dislodged material in mines or the like.

217,279.—V. Lefebure: Concrete, cements and plasters.

217,286.—J. E. Hodson: Device for retaining sliding windows in any desired position.

217,289.—J. Green: Wooden tubular structures.

217,328.—J. Green: Wooden tubular structures.

217,334.—S. M. Gully: Door latches.

217,335.—G. D. Peters & Co., Ltd., and L. J. LeClair: Windows.

217,343.—J. H. Amies: Cementitious composition.

217,361.—W. B. Whitton: Building blocks.

217,377.—D. Thornton and E. S. Illingworth: Silica or refractory fireclay blocks and bricks.

217,385.—G. C. Boliston: Easy chairs, lounges and settees.

217,388.—C. Pickstone: Manufacture of mortar, artificial stone and concrete.

217,407.—T. Robinson & Son, Ltd., C. J. Robinson, and J. Tweedale: Cutter-heads for tonguing wood.

217,408.—A. G. Pappadakis: Alarm mechanism for doors.

217,411.—F. M. Fogarty: Circular saws and benches.

217,471.—S. Turner: Material for use in the construction of tennis playing courts and promenades.

217,478.—E. Bivert and I. E. Firth: Concrete floor construction.

217,524.—D. Clarke: Jib cranes.

217,525.—A. B. Gibbons: Floor springs and check gear for doors.

217,627.—D. Moir and H. Buchanan: Means for the manufacture centrifugally of pipes and columns.

217,631.—H. Von Fremery: Heating apparatus.

217,633.—E. C. R. Marks (Master Builders Co.): Process and composition of matter for colouring mortars and concretes.

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per Ft.		Per Ft.
15 oz. fourths ..	3½d.	32 oz. fourths	8½d.
15 „ thirds	4½d.	32 „ thirds	10½d.
21 „ fourths ..	5d.	Obscured Sheet, 15 oz.	4d.
21 „ thirds	6½d.	„ „ 21 „	5½d.
26 „ fourths ..	6d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	En'lled 15oz. 5½d., 21 oz	7½d.

Extra price according to size and substance for square-cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
⅜ Rough rolled	5½d.
½ Rough rolled	5½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per gallon £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best Ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 0
Fine Copal Flatting	ditto	1 0 0
Hard Drying Oak.....	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 10 0
Best Black Japan		0 10 6
Oak and Mahogany Stain (water).....		0 12 0
Brunswick Black.....		0 7 6
Berlin Black		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine.....		0 9 0
Cuirass Black Enamel.....		0 7 0

COLUMN FALLACIES

In a paper, entitled "Column Fallacies," read before the Institution of Structural Engineers some time back, Mr. E. H. Salmon dealt with the following "fallacies":

(1) That Euler's limiting load merely implies passage from one type of stable equilibrium to another, and does not involve the failure of the column.

(2) That the defect in Euler's formula is the neglect of the direct compressive strength.

(3) That the deflection of an ideal column is an indefinite function of the load.

(4) That the Eulerian length relations have any applicability in practice.

(5) That it is possible to prove the Rankine-Gordon formula theoretically.

(6) That the constants in the "eccentricity" form of the Rankine-Gordon formula are the same as those in the ordinary Rankine-Gordon formula.

(7) That a "straight-line formula" is the simplest column formula.

(8) That eccentricity of loading is the principal source of weakness in columns.

(9) That the eccentricity of loading on the initial curvature are functions of the radius of gyration.

(10) That the bending stress in the ordinary column perfectly direction-fixed at the ends is equal at the middle and ends.

(11) That if given end conditions, the "free length" is a fixed proportion of the length of an ordinary column.

(12) That there is a tension-side in the ordinary practical column.

(13) That the Considere-Engesser theory gives values for the crippling load suitable for use in practical design.

(14) That a column with flat ends is fixed in direction at the ends, and that its failure is brought about by the ends "swinging round."

(15) That a "solid" column is stronger than a lattice-braced column.

(16) That in built-up columns, the moment of inertia about the two principal axes should be the same.

(17) That bottom plate columns are necessarily unscientific in design.

(18) That the ordinary theory of columns has any applicability in practice.

Dealing with No. 8, he said: There was a tendency in some quarters to regard eccentricity of loading as the prime, if not the only, source of weakness in columns, and the majority of semi-rational formulæ for columns contained terms allowing for either or both unintentional and intentional eccentricity. It was quite true that in a column with position-fixed ends, such as a round-ended specimen in a testing machine, eccentricity of loading had a great weakening effect, but if the ends were fixed in direction also, the eccentricity had no effect whatsoever. In practice, one or both ends of almost every column were attached to some other part of the structure, which attachment more or less fixed it in direction, often very imperfectly, but only in very rare instances was the member free to deflect as an eccentrically loaded specimen. Yet the secant formula in various disguises was quite commonly applied to such members. The attachments referred to usually resulted in external bending moments being applied to the ends of the columns, often exceedingly difficult to determine with accuracy, and too often neglected in design, but the effect of such moments is not the same as an eccentricity of loading, nor was the ordinary eccentricity formula applicable. On the other hand, initial curvature was inevitable in all columns, and alike weakened both position-fixed and direction-fixed columns. Its effects were by no means identical with those produced by eccentricity of loading. It greatly modified the distribution of stress in the ordinary direction-fixed column as compared with the ideal, perfectly straight, direction-fixed column, and it further had the effect of considerably increasing the shearing force as compared with eccentricity of loading. There was some justification, therefore, for the view that initial curvature was the prime cause of weakness in columns. Nevertheless, Howard, of Watertown Arsenal, who, with the possible exception of Tetmajer, must have conducted more experiments on columns than anybody else, regarded reduction in the quality of the material due to effect of past history, particularly cold-straightening and stresses set up during manufacture, local permanent sets, &c. (to which might be added annealing—in fact, any cause which lowered the elastic limit), as the chief cause of weakness in columns. He said that "variations of 25 per cent. and over in the elastic limit, as found in these plates and angles, would overshadow those considerations which find expression in empirical formulæ for strength and take no account of such variations."

In connection with "fallacy" No. 18, he said: the ordinary theory might be said to have originated with the experiments of Musschenbroek in 1729, who found that the strength of his specimens varied inversely as the square of their length. This discovery appeared to conflict with the ordinary beam theory as then understood, and led Euler to his famous investigation, which resulted in the well-known Euler formula. Euler himself was not a little puzzled by his result, and it started a fierce controversy which had never completely died out. The practical men said the theory was nonsense. Their attitude was well expressed by Robison (1822) who characterised Euler's memoirs as a "dry mathematical disquisition" based on assumptions which were "extremely gratuitous," and said that "the most important consequence of the compression is wholly overlooked." He therefore rejected Euler and the speculations "with which he was then amusing himself" as false and useless. The mathematicians confirmed Euler's results, and gave more rigid and stricter analyses in support, but the objections of the practical men still required an answer. One man, it was true, saw through the question—that somewhat unappreciated genius, Thomas Young—who, in 1807, pointed out that the differences under discussion were due to want of agreement between the assumed and actual conditions. Young, in 1807, first gave the correct theory for both eccentricity of loading and initial curvature (given as exercises for students!) and pointed out the now well recognised validity limit of Euler's formula, thus disposing of most of the difficulties. Possibly owing to his confused and obscure style the world in general ignored Thomas Young, and proceeded to make experiments—to prove or disprove the correctness of Euler. If all the well-known series of experiments be examined, from Hodgkinson onward (excepting only some of the American experiments), they would be found to be modelled on the Eulerian theory as a basis. Now, the Eulerian assumptions, although convenient for the mathematicians, were very difficult to realise in the testing machine, and so experimental conditions had gradually established themselves based upon the theoretical assumptions, but having essential points of difference. Hence had arisen differences between the theoretical and experimental findings, and great pains had been taken to reconcile them; but in spite of all the disputations, mathematical and otherwise, which the column theory had evoked, the battle of the formulæ still broke out afresh on occasion, and the merits of this or that expression as an interpretation of experimental results was laboured once more. Meanwhile, the dust of controversy had quite obscured the fact that widely as the theoretical and experimental results differed from each other, they both differed still more from the practical member.

The ordinary practical column was a relatively short, initially curved, member, not homogeneous, and usually built up of a number of separate elements. It was usually more or less rigidly connected to the other members of the frame of which it formed a part. It was therefore fixed both in position and direction at its ends, though the fixing was often very imperfect. Due to these quasi-rigid end connections, the column shares the general distortion of the framework, and in consequence had to carry bending moments transmitted through the end conditions. These bending moments were usually of the same "hand," so that S-shaped bending was the rule. The deflection curves usual in text-books had no validity in practice. The magnitude of these bending moments depended on the relative stiffness of the various members of the frame, and still more on the "give" of the connections. They could only be determined by consideration of the distortion of the frame as a whole, and were very difficult to determine theoretically. Nevertheless, he believed that anyone with the time and opportunity, who, forgetting the column theory as usually presented, would go to actual structures, and determine from them what actually happened to the members, would find himself in a new, very scantily explored region, and out of such determinations a new column theory would arise founded on practical facts, with frame distortion as the underlying basis.

TRADE NEWS

There are many and various methods of casting concrete piles *in situ*, but it does not necessarily follow the piles will answer the two essentials of being sound throughout their length and free from voids. Messrs. The British Steel Piling Co., Ltd., claim that a pile cast by the "Zenith" Vibro Concrete Pile Process is solid from toe to head, fills the hole completely, and keys itself to the soil. The idea, briefly, is to sink a tube to the required depth and to withdraw it 1½ in. at a time. During withdrawal the concrete is fed through the centre of the tube and rammed by the rim of the tube, which has an up and down motion (80 strokes per minute). This forces the concrete into the hole and results in a completely solid pile. Not only does this method guarantee a thoroughly workmanlike job, but it is claimed it can be done at half the price of pre-cast piles.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	6
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	35	0
Add if in underpinning in short lengths	" "	7	6
Add if in floors 6 in. thick	" "	3	6
Add if in beams	" "	4	0
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	2	0	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	1
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	9	0
¾ inch on flats in two thicknesses	" "	6	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	3

MASON.

		s.	d.
York stone templates fixed	per foot cube	12	6
York stone sills fixed	" "	21	6
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	19	6

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	3
Do. joists	" "	5	9
Do. roofs, floors and partitions	" "	6	3
Do. trusses	" "	8	3

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	38/-	44/-	50/-	80/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	4
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.		1¼"	1½"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/8	1/9	2/0
Deal shelves and bearers	"	1/5	1/7	1/10
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	"	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	59	0
Do. Do. in flats	"	57	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/1	1/9	1/11	3/5	4/2	
Do. service	"	1/8	2/2	2/7	3/10		
Do. soil	"						7/6
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	2
Do. Do. Sirapite	" "	2	4
Do. Do. Keen's	" "	3	3
Add sawn lathing	" "	1	5
Add metal lathing	" "	2	3
Portland cement screed	" "	1	10
Do. plain face	" "	3	0
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
¼ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	"	1	2
Preparing for and hanging paper	per piece 2/-to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 119, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

COUNTY CONSTRUCTION CO., LTD. (199,022). Registered July 2. 6, Seymour-street, Radcliffe, Lancs. Builders and contractors. Nominal capital, £1,000.

CYCLOPS BUILDING AND CONSTRUCTION CO., LTD. (198,992). Registered July 1. 9-11, Hilbre-street, Liverpool. Contractors, builders, &c. Nominal capital, £25,000.

BINGLEY, SON & FOLLITT, LTD. (198,973). Registered July 1. 13, Bessborough-gardens, Westminster, S.W. Slate merchants, &c. Nominal capital, £10,000.

A. E. UDALL & SON, LTD. (198,989). Registered July 1. Builder. Nominal capital £3,500.

MAYFAIR CONSTRUCTION CO., LTD. (198,960). Registered June 30. Builders and contractors, &c. Nominal capital, £5,000.

NEWINGTON BRICK CO., LTD. (198,962). Registered June 30. Brick and tile makers, and the like, at Newington-next-Sittingbourne, Kent. Nominal capital, £10,000.

LEYSDOWN CONTRACTORS, LTD. (198,710). Registered June 18. 6-7, Charing Cross Chambers, Duke-street, Adelphi, W.C. Public works contractors, builders, engineers, &c. Nominal capital, £500.

N. BROOKES & SONS, LTD. (198,736). Registered June 19. 30, Ellesmere-street, Patricroft, Lancaster. Builders, contractors, and concretors. Nominal capital, £4,000.

GEORGE MACDONALD, HUNT & CO., LTD. (198,735). Registered June 19. 26, Hampton Court-road, Harborne, Birmingham. Public works contractors, building contractors, &c. Nominal capital, £1,000.

CARVER (WILLENHALL), LTD. (196,655). Registered June 16. The Dale, Willenhall. Builders' merchant. Nominal capital, £5,000.

DINNINGTON BRICK CO., LTD. (198,658). Registered June 16. Rotherham-road, Dinnington, Rotherham, York. Manufacturing bricks, tiles, drain pipes, &c. Nominal capital, £5,000.

J. & A. STEANE, LTD. (199,224). Registered July 11. Markham-road, Bournemouth. General contractors, builders and contractors and shop fitters. Nominal capital, £20,000.

LANCASTER & BOWEN, LTD. (199,273). Registered July 14. 73, Bridge-street, Manchester. General contractors. Nominal capital, £100.

A. W. PELLING, LTD. (199,280). Registered July 16. Builder, contractor, and merchant. Nominal capital, £1,500.

HARRY GOUGH & SON, LTD. (199,309). Registered July 16. Knowle Top, Lightcliffe, Halifax, York. Joiner, cabinet maker, undertaker and building contractor. Nominal capital, £3,000.

ARTHUR HOLMES & SONS, LTD. (199,301). Registered July 16. Dallow Bridge, Burton-on-Trent. Builder and contractor. Nominal capital, £1,000.

DARTFORD ESTATES, LTD. (199,339). Registered July 17. Builders and contractors, &c. Nominal capital, £2,000.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.* † Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

ABERDEEN.—For the extension of Rubislaw sub-station, for the T.C. :—
*G. Bisset & Son £560

BADSEY.—Additions to Council School, for Worcestershire E.C. :—
†Espley & Co., Ltd., Evesham..... £975

BARNSLEY.—For erection of 50 concrete houses in pairs, for the Housing Committee of the T.C. :—
‡The United Kingdom Housing Syndicate, Ltd..... £670 per pair

BLYTH.—Cleaning and painting schools, for T.C. :—
Morpeth-road School—
*Grant £166 13 6
Crofton School—
*Gray 148 10 0
New Delaval School—
*A. J. Smithson 214 5 6
Bebside School—
*J. Finlay 205 10 0

BRIGHTON.—For alterations to the National Kitchen, Preston Circus, for the F.C. :—

G. H. King & Sons	£1,217
Gates & Son	1,190
T. R. Braybon	1,134
Field & Cox	1,085
Charles Kent	1,082
G. Lynn & Sons	1,073
W. & T. Garrett, Ltd.	1,050
*James Barnes & Sons, Brighton	1,036

BRIGHTON.—For the erection of electricity sub-stations, for the T.C. :—

	Preston Park.	*Lewes-road.*
Arthur Vigor, Ltd.	£7,821	£8,595
T. R. Braybon & Son	7,187	7,581
J. W. Woolnough, Ltd.	6,990	7,690
Field & Cox	6,625	7,294
R. Cook & Sons, Ltd.	6,200	6,730
*James Barnes & Sons, Brighton	6,119	6,681

COVENTRY.—For extension of female mental wards, for the B.G. :—
*W. H. Penn, Coventry £1,048

COVENTRY.—For enlargement of Stoke Park Secondary School, for the T.C. The Secretary, Education Department, Council House. Mr. Geo. A. Steane, architect. Quantities by Mr. J. N. Binley, Much Park-street :—
*W. H. Penn, Coventry £10,531 19

COVENTRY.—For supply and laying of 105 yds. of 4 in. cast iron water main :—
*Whiteman & Co., Ltd., Coventry— 11s. 6d. per lineal yd.

DURHAM.—For erection of 14 houses at Ushaw Moor, in lieu of tender withdrawn, for the R.D.C. :—
*A. Elcoat, Auton Stile.

EAST BARNET.—For the construction of sewers and roads on Long-street housing estate, for the U.D.C. :—
*C. Ball, Letchworth £1,250

EXETER.—For erection of a reinforced concrete warehouse at Exeter, for Messrs. Rowe Bros. Messrs. R. M. Chalice & Son, architects, 7, Bedford-circus, Exeter :—

A. Wilkins & Sons, Ltd., Bristol	£24,676 0 0
M. T. Sleeman & Sons, Exeter	23,560 0 0
E. C. Lea & Co., Ltd., Exeter	22,708 0 0
W. Brealy, Exeter	22,300 0 0
*R. F. Yeo & Sons, Ltd., Torquay	21,734 16 11

FALMOUTH.—Erection of two shops at Church Corner, for the T.C. :—
*Edwin Thomas £1,969

GEDDINGTON.—For erection of three cottages for the Northampton C.C. Mr. C. S. Morris, County Surveyor, Northampton :—

E. Archer & Son., Ltd., Northampton	£1,798 0 0
C. R. Pettit & Son, Thrapston	1,752 4 0
O. P. Drever & Son, Ltd., Kettering	1,680 10 7
A. Lewin & Son, Ltd., Kettering	1,527 0 0
W. Lewis & Son, Kettering	1,518 17 5
G. & W. Patrick, Kettering	1,486 12 5
S. T. Abbott, Kettering	1,460 10 6
Harrod Bros., Kettering	1,450 14 0
*A. Johnson & Co., Kettering	1,327 0 0

GEDDINGTON.—For a new by-pass road and bridge :—
*Sir Wm. Prescott & Sons, Ltd., London £9,009 7

GEDDINGTON.—For reconstruction and widening Braunston (Castle) Canal Bridge in ferro-concrete :—
*G. F. Hartigan, Northampton £2,856 6 6

GOMSHALL.—For erection of a bungalow. Mr. F. Nash, architect, 6, New-square, Lincoln's Inn, W.C.2 :—

W. & G. King, Abinger Hammer	£1,100
H. F. Thorpe, Cranleigh	900
F. H. Woods & Sons, Guildford	857

GOVAN.—For erection of new destructor works at Helen-street, for the Corporation :—
Total estimated cost is about £382,150.
*Heenan & Froude, Ltd., Worcester.

GRIMSBY.—Erection of tool house, mortuary and drying room, for T.C. :—
‡E. Heelas, Cleethorpes..... £552

H.M. OFFICE OF WORKS (accepted during August) :—
Building Works, &c. : Blackburn Post Office Extension—Painter : John Leaver & Son, Blackburn. Plasterer : W. H. Ainsworth, Blackburn. Plumber : W. H. Law & Sons, Blackburn. Slater : George Dewhurst & Sons, Blackburn. Steelwork : Foster Bros., Blackburn. Blaydon-on-Tyne Post Office—Alterations : A. Anderson, Newcastle-on-Tyne. Bridgeton. Glasgow, Employment Exchange—Painter : T. Hastie, Glasgow. Plumber : Hugh Twaddle & Son, Glasgow. Catterick Repeater Station—Erection of Steelwork : A. Lynn, Glasgow. Darwen Post Office—Erection : Robert Shorrock & Son, Ltd., Darwen. Hoylake Post Office—Plumber : Higginbotham & Sons, Bradford. London, Wood-street site—Pile Driving : John Gill Contractors, Ltd., London, S.W. London, The Mall—Relaying roadway : The Improved Wood Pavement Co., Ltd., London, E.C. Mossley Hill Hospital, Liverpool—Adaptation, &c. : J. W. Jones & Sons, Ltd., Liverpool. National Physical Laboratory—Steelwork : Dorman, Long & Co., Ltd., London, S.W. Newcastle (Staffs) Telephone Exchange—Asphalte : The Ragusa Asphalte Paving Co., Ltd., London, W. Steelwork : Redpath, Brown & Co., Ltd., Manchester. Portpatrick Wireless Station—Alterations, &c. : John Taylor, Clydebank. Redditch Post Office—Alterations, &c. : Harry H. Crump, Birmingham. Royal College of Art—Roofing Works : E. D. Winn & Co., Ltd., London, S.W. Rugby Wireless Station—Glazing, Painting and Plumbing : Higginbotham & Sons, Bradford. Sheffield, Beauchief, Telephone Exchange—Erection : W. & A. Forsdike, Ltd., Sheffield. Shoreditch—Erection of Flats : Chessums, Ltd., London, N. Stanley Housing Site—Roads, &c. : D. & J. Crombie & Co., Sunderland. Threadneedle-street Post Office—Fittings, &c. : The Educational Supply Association, Ltd., London, W.C. ; John Greenwood, Ltd., London, E.C. Marble Work : Anselm Odling & Sons, Ltd., London, N. Western Telephone Exchange—Steelwork : Dorman, Long & Co., Ltd., London, S.W.
Painting, &c. : Charles Bell (Manchester), Ltd., Manchester ; Campbell, Smith & Co., Ltd., London, W. ; Dilliway & Co., London, W. ; Waring & Gillow, Ltd., London, W. ; E. D. Winn & Co., Ltd., London, S.W.

LEEDS.—For rebuilding of the Mexborough Arms Harrogate-road, Chapel Allerton, for Messrs. Joshua Tetley & Son, Ltd., Leeds. Messrs. Kitson, Parish & Ledgard, architects, of Leeds :—
**Mason*—Samuel Flockton, Leeds.
**Asphalter*—Tunstall's Rock Asphalte Co., Ltd., Leeds.

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KIDDERMINSTER.—For extensions at the Policemen's Recreation Room, for the Watch Committee of the T.C. :—
*Chas. Walker & Son, Kidderminster .. £184

KIDDERMINSTER.—For the providing and laying of wood block paving upon a concrete foundation in Oxford-street, for the Highways Committee of the T.C. :—
*The Improved Wood Pavement Co., Ltd. £1,325 15 6

LONDON (SHOREDITCH).—Erection of 20 flats at Pritchard-street, for B.C. :—
*Chessum £13,600

LOWESTOFT.—For erection of houses, for the T.C.

	No. 1 *Block.*	*No.* 2 *Block*
Gaze & Godbold.....	£1,264 0	£1,270
J. Wales	1,060 0	1,032
F. A. Roper	989 0	987
C. Allerton	980 0	980
Warnes & Son	910 0	910
Evans & Co.	900 0	900
*D. Leighton & Son....	886 10	878

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MOUNTAIN ASH.—For converting "Duffryn House," Mountain Ash, Glam., into a new Intermediate School, for the Glamorgan C.C. Mr. D. Pugh Jones, County Architect, Cardiff :—
*Davies & Lloyd, Senghenydd, Glam. .. £4,430

NEWBURY.—Resurfacing Greenham and Newtown-roads, for the T.C. :—
*Partington Iron and Steel Co., Ltd... £4,030

NEWCASTLE EMLYN.—For erection of a house, for Mr. T. R. Randell. Mr. R. Jones, architect, Llandyssul :—
*D. R. James, Newcastle Emlyn.... £1,082

PETERSFIELD.—For painting exteriors of houses in Norveuil-road, for the U.D.C. :—
*W. H. Butler £135

ROMSLEY.—Erection of police cottage, for Worcester Standing Joint Committee :—
*Poulton & Davies £650

SEAFORD.—For the U.D.C. :—
Improvements to the Station approach—
*A. & H. Burgess £138 10 0
Paving in Sutton-road, Claremont-road, &c.—
*H. A. Chambers 1,606 13 6

SELKIRK.—For erection of 20 houses on the Goslawdales, for the T.C. The Burgh Surveyor, Municipal Buildings :—
*Inglis & Dickson, Selkirk—
8 houses £1,427 19 6
*J. J. & P. McLachlan, Larbert—
12 houses 2,335 12 3
Joiners
*Charles Brodie & Son, Selkirk .. 2,566 14 3
Slaters—
*Joseph Gibb & Son, Galashiels 646 17 8½
Plumber—
*Peter Ruthven, Selkirk 1,451 13 2
Plasterers—
*A. Clapperton & Son, Selkirk .. 1,288 9 10
Painters—
*The Norfolk Decorators, Ltd., Glasgow 247 3 1½

THURNSCOE.—For the erection of a sewerage disposal work, for the U.D.C. Messrs. W. H. Radford & Son, Nottingham, engineers :—
The Provincial Construction, Co., Ltd., Sunderland (approx.)..... £25,000

TORQUAY.—Summer residence for Mr. W. J. H. Whittall. Messrs. Bridgman & Bridgman, F./A.R.I.B.A., architects, Torquay. Quantities by Messrs. Harris & Hills, Paignton :—
A. E. Brock, Torquay -..... £2,095 7 3
J. Webber, Paignton 3,052 5 0
E. P. Bovey & Sons, Torquay .. 2,812 0 0
Wilkins & Sons, Torquay 2,676 5 0
R. Yeo & Sons, Torquay 2,539 9 3
F. Zealley & Son, Newton Abbot 2,468 10 9
*R. Spiller, Chard 2,398 0 0

TROWBRIDGE.—For the erection of 10 pairs of houses, for the T.C. :—
*J. T. Parsons, Westbury....per pair £960

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WAKEFIELD.—For the resurfacing of a portion of Wood-street and Westmoreland-street, for the Highways Committee of the City Council :—
*The Limmer and Trinidad Lake Asphalte Co., Ltd.

WARRINGTON.—For resurfacing of St. Austin's-lane, for the T.C. :—
*Highways Construction Co.....7s. 6d. per sq. yd.

WORTLEY.—For erection of 20 houses at Oughtibridge, for the R.D.C. :—
*J. W. Bailey, Tinsley £9,100

London Bridge.

The engineer's report on the condition of London Bridge states that "the bridge is in as good a condition as it was 20 years ago, and that not the least apprehension need be entertained in regard to the stability or safety of the structure."

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